L&N LETS TRAFFIC DECIDE SHOP LOCATION ..... p. 29

MAY 1, 1967

RAILWAY AGE

THE TRANSPORTATION WEEKLY

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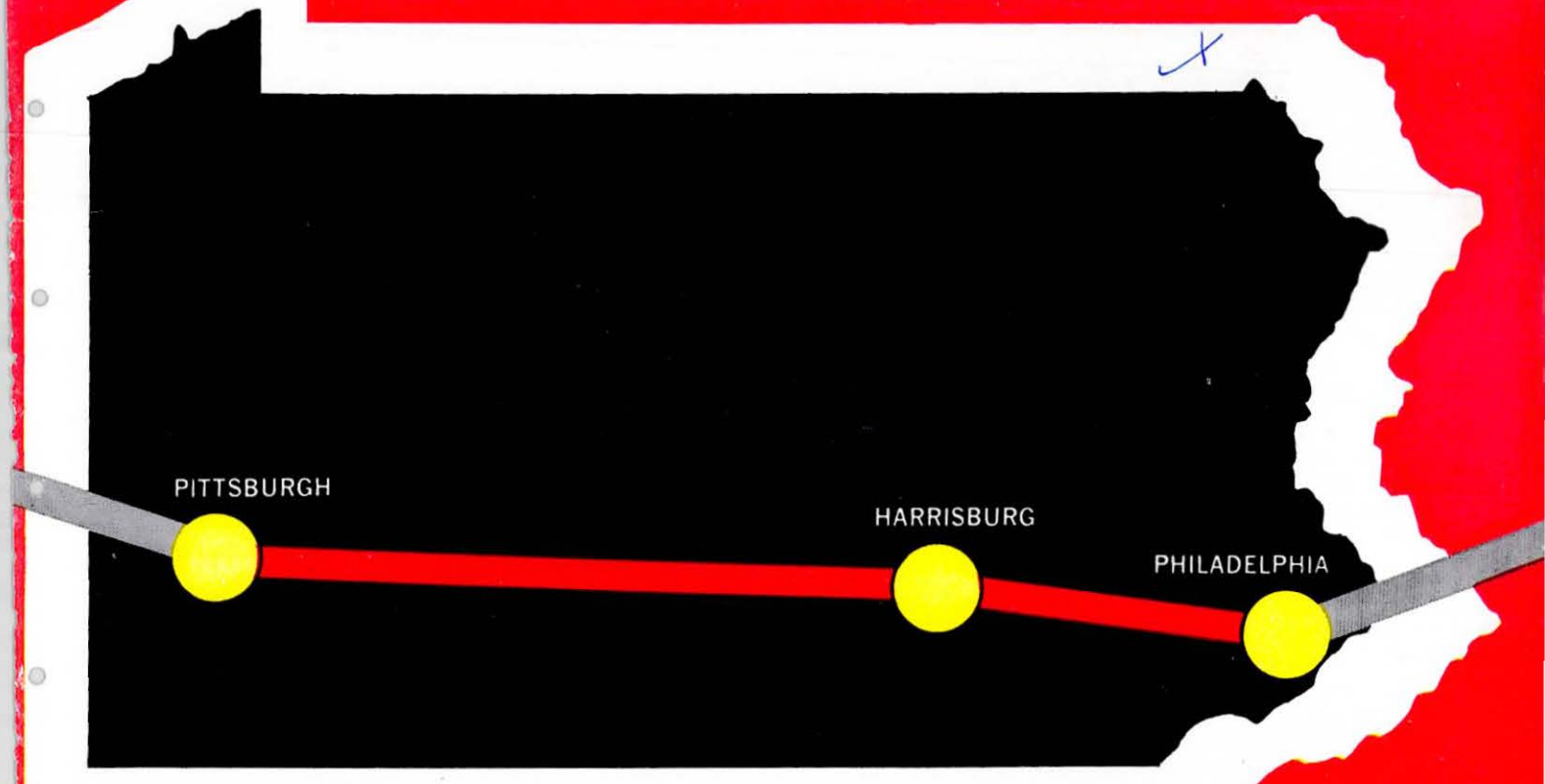

HIGH-SPEED PROGRAM GETS ROLLING IN PENNSYLVANIA

p. 18

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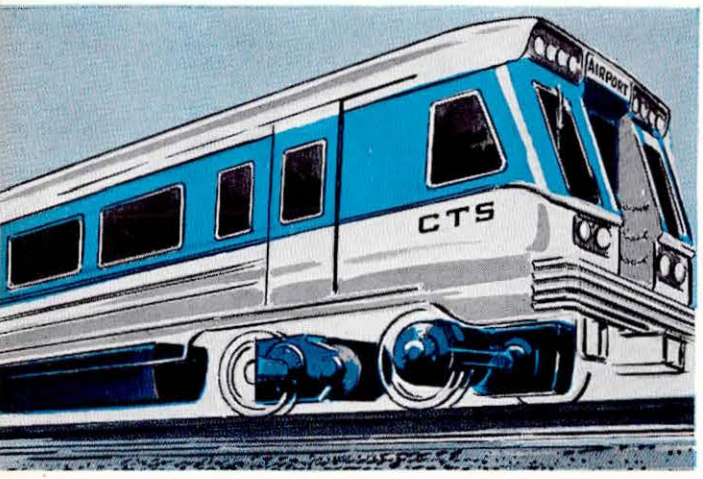
Jet Age Convenience...
Airport to Downtown Cleveland by Rapid Transit



General Electric propulsion systems will speed new CTS to the airport.

GE PROPULSION SYSTEMS WILL PROVIDE FAST, DEPENDABLE SERVICE FOR CTS PASSENGERS

By mid-1968, the Cleveland Transit System's extension to Hopkins International Airport will make Cleveland the first city in the nation to enjoy rapid transit service from center city direct to the air terminal. This speedy, dependable service will use General Electric high-performance propulsion systems in the 20 new rapid transit cars ordered for the airport extension.

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For more information write: Metropolitan Transportation Development, General Electric Company, Bldg. 3-42A, Erie, Pennsylvania 16501. 605-05

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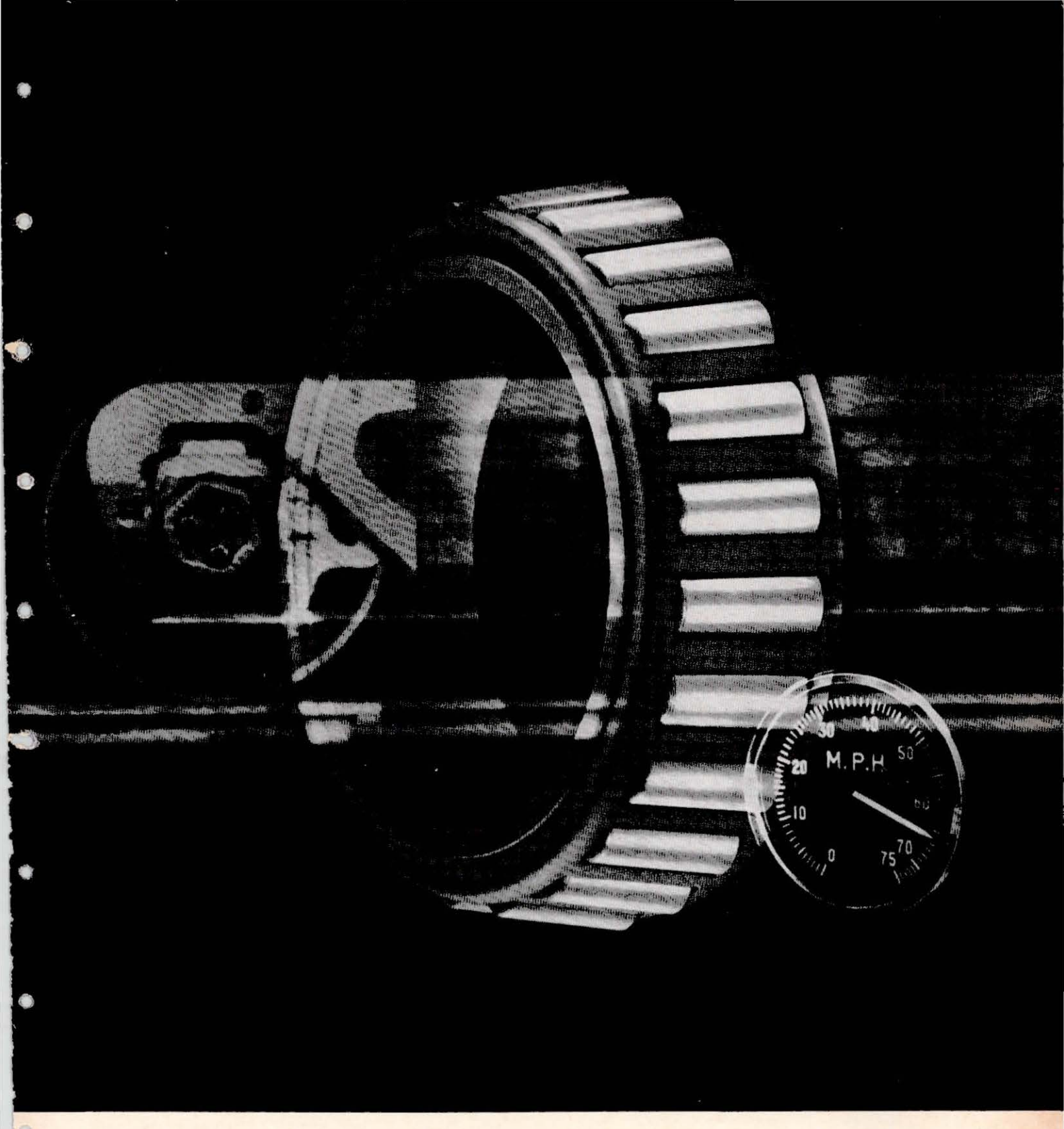

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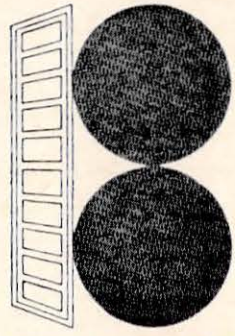

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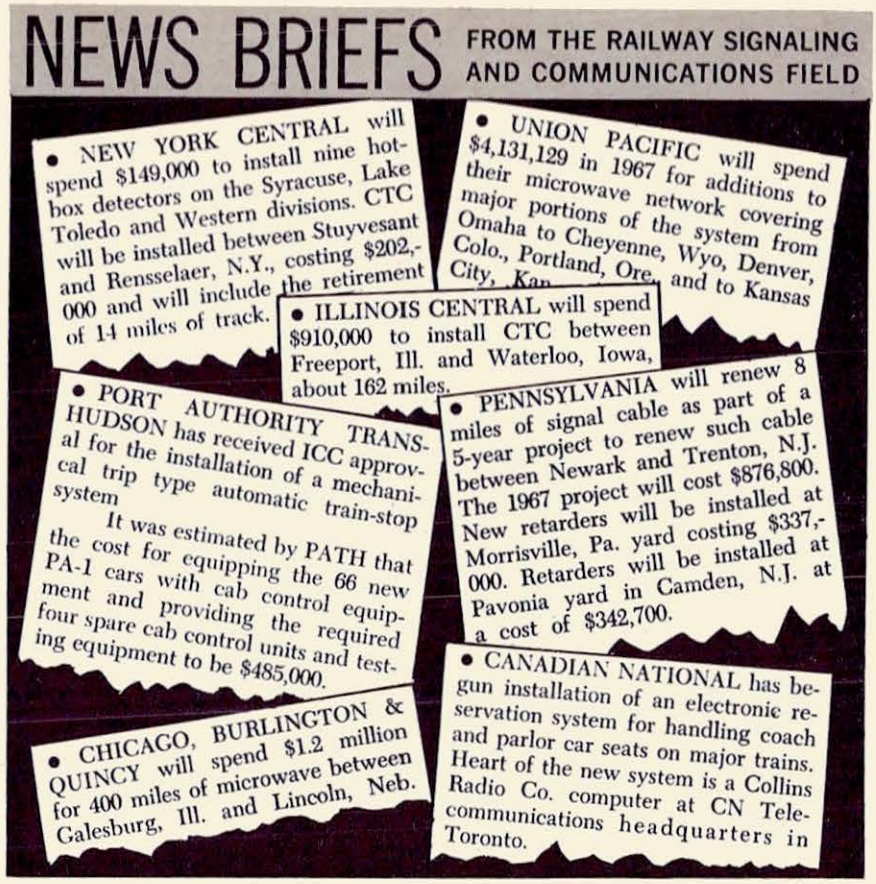
NEWS BRIEFS
FROM THE RAILWAY SIGNALING AND COMMUNICATIONS FIELD
• NEW YORK CENTRAL will spend $149,000 to install nine hot-box detectors on the Syracuse, Lake Toledo and Western divisions. CTC will be installed between Stuyvesant and Rensselaer, N.Y., costing $202,-000 and will include the retirement of 14 miles of track.
• UNION PACIFIC will spend $4,131,129 in 1967 for additions to their microwave network covering major portions of the system from Omaha to Cheyenne, Wyo, Denver, Colo., Portland, Ore. and to Kansas City, Kan.
• ILLINOIS CENTRAL will spend $910,000 to install CTC between Freeport, Ill. and Waterloo, Iowa, about 162 miles.
• PORT AUTHORITY TRANS-HUDSON has received ICC approval for the installation of a mechanical trip type automatic train-stop system
It was estimated by PATH that the cost for equipping the 66 new PA-1 cars with cab control equipment and providing the required four spare cab control units and testing equipment to be $485,000.
• PENNSYLVANIA will renew 8 miles of signal cable as part of a 5-year project to renew such cable between Newark and Trenton, N.J. The 1967 project will cost $876,800. New retarders will be installed at Morrisville, Pa. yard costing $337,-000. Retarders will be installed at Pavonia yard in Camden, N.J. at a cost of $342,700.
• CHICAGO, BURLINGTON & QUINCY will spend $1.2 million for 400 miles of microwave between Galesburg, Ill. and Lincoln, Neb.
• CANADIAN NATIONAL has begun installation of an electronic reservation system for handling coach and parlor car seats on major trains. Heart of the new system is a Collins Radio Co. computer at CN Telecommunications headquarters in Toronto.

1967 S & C

improvements are setting a fast pace...

The above clippings from the pages of Railway Signaling & Communications offer a current sampling of what's happening in one of the most active segments of a *growth* industry. And it's just a smattering of the equipment and hardware being ordered today for the busy signaling and communications departments of the railroads.

It is expected that the railways' total 1967 expenditures in this field will again reach the $100 million area with 31,000 units of equipment ordered. Important strides are being made in microwave installations. ACI (Automatic Car Identification) systems are of high interest for both line haul railroading and transit operations.

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RAILWAY AGE May 1, 1967 • Vol. 162, No. 17

THIS WEEK

13 At Atlanta: IRT gets down to cases

Case-study techniques will be employed at the May 24-26 Work-Shop Conference arranged by the Institute for Rapid Transit.

18 Keystone Corridor: High-speed program gets rolling

The proposed high-speed rail corridor through Pennsylvania could involve expenditures of more than $1 billion.

24 Toronto transit: New from the word GO

North America's newest rail commuter service will be inaugurated in the Canadian city on May 23.

27 BRT transport conference to meet in Chicago

The conference aim, says BRT President Luna, is frank discussion of a national problem: mass urban transportation.

29 L&N lets traffic decide shop location

The road has spent about $850,000 to modernize car and locomotive facilities at Corbin, Ky., where coal hauling is big business.

42 Viewpoint—In planning, how far is "ahead"?

Pretty far, indeed, in the view of Burlington President William Quinn. His "conservative" predictions are breath-taking.

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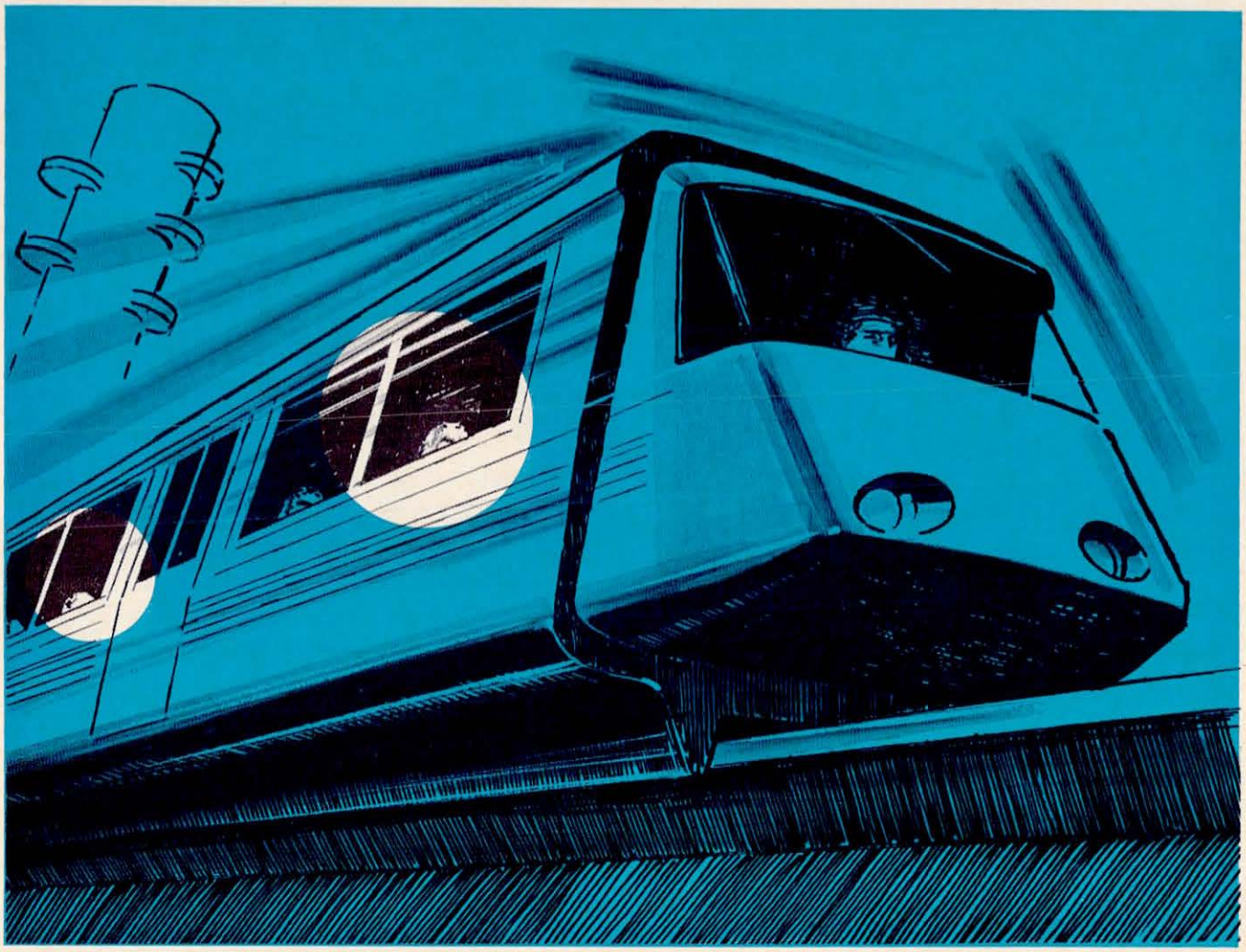
How do you keep commuters calm?



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SHORT AND SIGNIFICANT

Northeast Corridor test to begin Oct. 29

The Department of Transportation has set Oct. 29 as the inaugural date for experimental high-speed rail service in the Northeast Corridor between Washington and New York. The cooperating railroad is the Pennsylvania. The premium-fare service will begin with 40 new Budd Co. coaches; 10 parlor cars will be added in November. Work began last week on the special high-speed-train platform in Washington, D.C.'s Union Station (the platform will be between tracks 17 and 18). Work on the Baltimore, Md., platform, which began last fall, is nearing completion, and platform work in Wilmington, Dela., is scheduled to begin May 8.

●

Senator will request commuter-train subsidies

U.S. Senator Harrison Williams (D.-N.J.) will ask Congress to authorize federal subsidies covering up to 75% of the deficits incurred in railroad commuter operations. Senator Williams will outline his plan this week at a BRT-sponsored transportation conference in Chicago (see p. 27). He would impose one condition: All carriers receiving the subsidies would have to reach the break-even point on passenger operations within 10 years' time.

●

Railroad employment continues decline

Class I railroads had 608,949 employees on their payrolls in mid-March —down 0.25% from the preceding month and 2.16% below the year-ago figure, according to the ICC. Biggest percentage decrease from a year ago—6.53%—came in the transportation (other than train, engine and yard) category.

●

Auto slump, bad weather put NYC in the red

A 4.8% decrease in New York Central's freight revenues during the first quarter of 1967 changed the color of the carrier's ink from black to red. First quarter operations resulted in a net loss of $1,959,152, compared with a net income of $7,578,611 in the corresponding 1966 period. While carloadings dropped by 7.6%, the average revenue per carload increased $5.36, or 3%, to $184.73. A bright spot in Central's picture was Flexi-Van. Volume of this container operation increased 21.2% over the first three months of 1966. NYC blames its relatively poor first-quarter performance on a decline in certain industrial activity, particularly in the automobile industry, and extreme weather conditions.

●

Pennsy earnings drop

The Pennsylvania Railroad Co. reported first-quarter earnings of $2,855,000—down from $5,134,000 in the comparable 1966 period. Chairman S. T. Saunders blamed cutbacks in steel and auto production, plus severe weather, for the slump. Pennsylvania's consolidated earnings were $14,280,000 for the first quarter, compared with $15,505,000 in 1966.

●

Aldene Plan goes into operation

The long-talked-of Aldene Plan for bringing Jersey Central passengers directly into New York City without having to transfer to a river ferry went into effect last week. CNJ passengers now arrive at Pennsylvania Station, Newark (by means of a new rail connection from CNJ to LV tracks at Aldene, N.J., and from there over the PRR right of way to Newark), then have the option of continuing by PRR commuter train into mid-Manhattan, or taking the PATH trains to Hudson Terminal in downtown Manhattan. As an added inducement, PATH has lowered its fare on the Newark-New York run from 40 cents to 30 cents.

MONDAY MORNING REPORT

Corporate headhunting is on the upswing

Business is good and getting better for the handful of companies that help railroads recruit employees for executive positions. Personnel "searches" and "pirating" are usually triggered by the failure of a railroad's personnel development process to produce an executive at the right place and the right time. Such activity is at an all-time high. Hardly a week goes by without some substantial railroad officer suddenly switching instead of staying.

Behind the headlines: Obsolete policies

Professional headhunters say one of the main reasons for their success in recent years is the neglect of the personnel and development function in the railroad industry. Notes an officer of a New York firm: "Carriers—with few exceptions—do not have professional organizations. The so-called personnel departments on many carriers are not that at all. They are really labor-relations departments." Companies like Handy Associates, Conley Associates and others report rising business stemming from such neglect. Shortages of highly qualified manpower are also behind consultant company search programs for clients. A. T. Kearney & Co., and Booz, Allen & Hamilton both report such activity when work for a client suggests the need for an executive that cannot be produced by the client.

Nowadays: Less loyalty, a new individualism

Headhunting is a far more scientific business than it was a few years ago. A personnel officer of a Midwestern railroad says, "These men operate with less-and-less hanky-panky than they used to. And maybe it's a good thing. We banked too long on the innate tendency of people to stay with an organization after they joined it. The headhunters put the fear of God in us when they come around with their carpet bags stuffed with contracts, options, insurance plans and challenges. To protect ourselves we have to upgrade people quickly to their potential or risk losing them. Traditionally, a guy joined a railroad and stayed—often with a small group on that railroad. Now, men who are highly qualified, tend to regard their career in light of today's new, easy individualism. Old cries of 'where's your loyalty?' that used to be hurled at men getting restive for bigger things sound sort of silly nowadays."

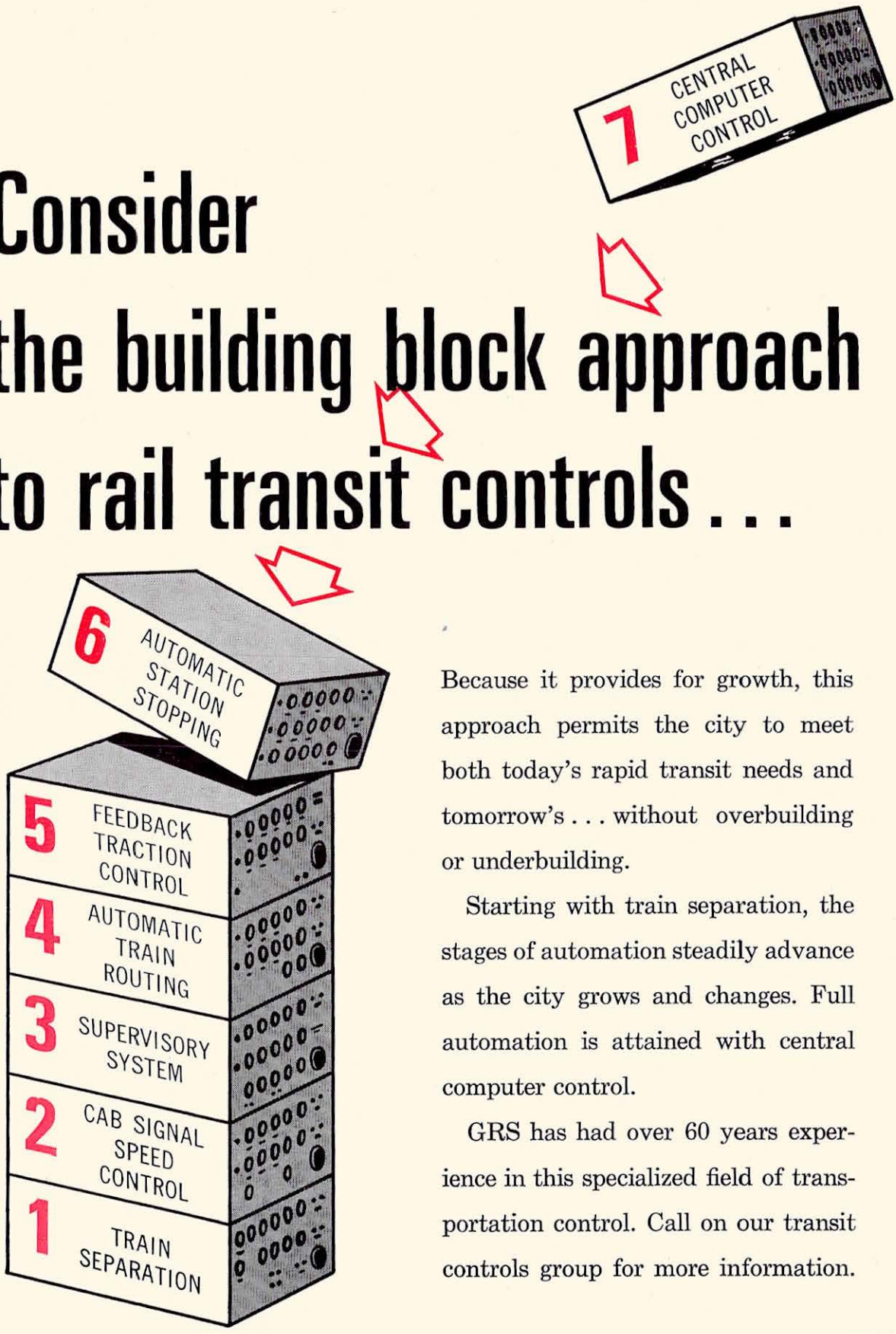
Recruiting, pirating and headhunting will increase

Nothing in sight promises to reduce the amount of such activity sponsored by railroad dollars. A sharp upswing in railroad recruiting and development programs has been accomplished by an equally sharp rise in the number of rail officers switching jobs for one reason or another within the industry. Personnel-recruiting firms in the East and Midwest think such activity will continue to increase for a long time to come. Reason? New technology, new organizational demands and mergers have strained the available executive resources of the industry. Competition for highly qualified manpower from outside industry is also increasing. In at least one instance, an aerospace company tried to pirate a railroad's entire computer staff.

What does it cost?

Finding men through the agencies and the consulting firms isn't cheap—though personnel specialists sadly agree it could be cheaper than development programs, though not as good for the long haul. A railroad hunting for a top man (and few undertake the search through professional organizations for men earning less than $25,000) have to pay fees of 25% of the job's annual compensation. Some New York firms charge more than that. Search missions take from 60 to 120 days, because, as a Conley Associates vice president says, "Good men are hard to find. And railroads are increasingly trying to protect their key people."

Consider the building block approach to rail transit controls . . .



Because it provides for growth, this approach permits the city to meet both today's rapid transit needs and tomorrow's . . . without overbuilding or underbuilding.

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WEEK AT A GLANCE

While Congress fiddles, orders dry up

Legislation restoring the 7% investment tax credit was still in trouble last week, caught in the crossfire of feuding Senators. No one doubted eventual passage; but the big question was "when?" Railroad suppliers kept an especially watchful and anxious eye on the goings-on in Congress. Orders for railway equipment began to drop off after the tax credit was suspended last Oct. 11; they all but dried up after President Johnson announced, on March 9, that he was requesting immediate restoration of the investment incentive. A private survey indicates that as soon as the credit is reinstated, orders worth hundreds of millions of dollars will be placed for new cars and locomotives. But most railroads won't take their shopping lists out of their pockets until the reinstatement bill is signed, sealed and delivered. A comparison of orders placed in the first quarter of this year compared with last underscores the effect of the tax credit's suspension. Locomotive orders dropped from 475 units in the first three months of 1966 to 70 in the corresponding 1967 period, a decline of 86%; orders for new freight cars plummeted from 26,000 to 8,500, a drop of 65%; and the dollar volume of components ordered was down 60%. Says RPI President Nils A. Lennartson: "Prompt action in restoration of the tax credit is essential to avoid serious dislocation in railway supply production."

The unit train: A coal shipper's best friend

Railroads used to take satisfaction from the fact that they could move a ton of freight one mile for 1.3 cents. "But we began hunting for higher efficiencies," AAR Vice President—Research W. M. Keller told the 29th annual meeting of the American Power Conference last week. "The unit train was one answer." What kind of bargain does the unit train represent for coal shippers? Said Keller: "For certain length runs it has been found that the rate reduction possible with unit trains has permitted rates for coal in the neighborhood of 0.5 cents a ton mile. On one special run the coal rate is actually 0.422 cents per mile." He listed six factors "of vital importance in obtaining these low rates": (1) Shipper ownership of cars; (2) cars of high capacity; (3) agreed-upon annual tonnage; (4) agreed-upon schedules for uniform tonnage movement per week; (5) origin or destination points unchanged; (6) quick loading and unloading facilities provided by the shipper. The payoff: Railroad coal traffic is growing; in 1966 coal accounted for 18.9% of all carloadings, and 35,000 more cars were loaded with coal that year than in the previous year.

"Try harder," Postmaster General tells railroads

Can railroads do anything to halt the flow of mail traffic away from rails? Postmaster General Lawrence F. O'Brien thinks they can. The New York Times asked O'Brien if he foresaw "a further decline in the use of railroads and a proportionately greater use of airlines and trucks." His reply: "I think the railroads could halt this decline and perhaps increase their activities with us if they took a hard look at the possibilities of mail transportation, bulk mail and the rest. But under the current situation the railroad decline will probably continue. We currently spend about $630 million on transportation alone, about 10% of our budget (of which approximately $300 million went to railroads last year). We are the largest users of transportation in the world. But the railroad portion of our transportation dollar used to be in the high 60%. Our projection into 1968 is about 43%. I think the railroads will serve themselves well at this point if they had a study—equal in intensity to the study we've recommended of the Post Office Department—of their transportation procedures. I am in no sense anti-railroad.

"But it is beyond my understanding why the railroads will allow their participation to deteriorate at the rate it has without coming forward with suggestions that might provide us with service we need, and in turn provide the railroads with additional revenue."

NP: The emphasis is on marketing

Northern Pacific has announced the creation of a system-wide market development organization to be headquartered in St. Paul. C. Duane Carley (a former NP freight agent who went on to become manager of transportation pricing for the Hooker Chemical Co.'s western headquarters at Tacoma, Wash.) will return to the railroad as director of market development. Reporting to him will be four or more managers who will specialize in specific commodities or commodity groupings—such as lumber and wood products, agricultural products and TOFC traffic.

MBTA orders rapid transit control systems

The Massachusetts Bay Transportation Authority has signed a $5,613,000 contract with General Railway Signal Co. for train control and cab signal equipment on two rapid transit lines (see p. 37). The equipment will be installed on the existing Cambridge-Dorchester line and the completely new South Shore line. Eight-car train groups will operate on the South Shore line at speeds up to 75 mph. On the Cambridge-Dorchester line 6-car train groups will travel as fast as 50 mph. Installation of the new equipment will begin late this year and is to be completed in 1968.

GUS WELTY'S LINES ON LABOR

WELTY

ONCE YOU ACCEPT the inevitability of change, the toughest part of the battle is over. You can then start trying to figure how to use change—and how to avoid being used by it. Sometimes, however, it seems as if there's still an element in rail labor which either (a) denies the existence of change, or (b) decides to meet its challenge with dug-in heels and eyes fixed firmly on the past. Hopefully, this is a minority group—for, as the BLE's C. J. Coughlin says, in somewhat dramatic fashion, "we will have a hand in shaping the course of events if we recognize that history is running at full throttle, leaving behind, like disappearing mileposts, those whose only thought was blindly to resist."

COUGHLIN, first assistant grand chief engineer of the BLE, lays it on the line: "With innovation and change, both technological and social, so markedly characteristic of our times, it may well be that labor organizations, if they are to survive as viable, influential institutions, will have to change their public stance and demonstrate a willingness to accept inevitable changes." As for the brotherhoods specifically, Coughlin can see a certainty: "The problem of adapting to change is bound to confront railroad labor organizations with increasing frequency."

SO THE QUESTIONS, as the BLE's No. 2 man sees them, involve ways and means of adapting: "To take the position that we should automatically resist change is as ridiculous as it is unavailing."

AND THE ANSWERS, as spelled out by the BLE? "We must negotiate agreements to protect fully and completely the men we now represent in the industry so that the changes do not affect them adversely. We must make sure that the jobs which remain are the best possible jobs in terms of compensation, conditions and security, with locomotive engineers sharing substantially in the high productivity of the streamlined, efficient railroad system of tomorrow."

THIS APPROACH, or something similar to it, would seem to offer the organizations their best hope in doing the job they're in business to do—which is to represent men. Certainly those unions which have been willing to update their practices and their agreements have found the carriers willing to negotiate the protection of men—and both the enterprise and the employee have benefited. And the alternatives? Well, an officer of one change-oriented union had a private word recently about a group of unions which were choosing the path of resistance. His comment: "Their horse is dying—and they're trying to buy him a new saddle."

At Atlanta: IRT gets down to cases

Institute for Rapid Transit's workshop conference at Atlanta this month will employ the case-study technique. The sessions are designed to encourage maximum individual participation.

In Atlanta late this month, the nation's leading transit operators, planners and suppliers will gather for a transit conference that will differ from many such meetings in one important respect: Participants will have the opportunity for a free-wheeling exchange of ideas at close quarters.

The Institute for Rapid Transit's Workshop-Conference on Transit Development (to be held in Georgia's capital city May 24, 25 and 26) will follow the format that its name implies. The big group will break up periodically into smaller groups to consider (and critique) the presentations made at the plenary sessions.

As IRT President George L. DeMent put it in a prospectus mailed to those who will participate: "The Conference is designed to promote individual participation by everyone attending. There will be general sessions and three workshop sessions, small groups with an assigned subject to explore, analyze and develop. You'll join with others in a free-wheeling and informative discussion of three of the most critical requirements for rapid transit growth. Through especially created case studies, based on actual situations, you will dig deeply into and develop solutions for the challenging problems of obtaining maximum public support, selecting the optimum system characteristics and staffing to carry out the operation."

Program chairman for the conference is Thompson A. Nooner, executive assistant to the president of the General Railway Signal Co. Sessions will be held at the Marriott Hotel.

The morning of the first day will be devoted to IRT-member business sessions. For most of those attending, the conference actually begins with a keynote luncheon that will be addressed by Charles M. Harr, assistant secretary for metropolitan transportation, U.S. Department of Housing and Urban Development.

This will be followed by the first workshop session. A general presentation on "Environmental Support"—subject of the first case study—will be made by Dr. William J. Ronan, chairman of New York's Metropolitan Commuter Transportation Authority—and the man who between now and next November has the job of whipping up "environmental support" for a $2.5 billion mass-transportation bond issue proposed by New York Gov. Nelson Rockefeller.

Following Dr. Ronan's presentation, participants will divide into workshop panels, reassembling later for a critique session.

The second workshop, May 25, will deal with "System Characteristics." Presentations will be made by Henry L. Stuart, general manager of the Metropolitan Atlanta Rapid Transit Authority, and Leo J. Cusick, director of the Urban Transportation Administration, HUD.

At the May 25 luncheon, the speaker will be Noah Langdale, Jr., president of Georgia State College. That afternoon, registrants will board buses to visit the Georgia Institute of Technology. There they will study a model transportation system that is being developed by the Georgia Tech Complex Systems Design Class.

An IRT reception and dinner on the evening of May 25 will feature a satiric group, "Wits End Players."

Then it's back to work May 26, with a third workshop session on the subject, "Management Organization." Walter S. Douglas, a partner in Parsons, Brinckerhoff, Quade & Douglas, the engineering firm, will make the presentation.

Says IRT President DeMent: "Participants in the conference are expected to join with others in contributing personal business experience to the group. Moreover, it is expected that they will be able to further this contribution upon their return to their jobs." ■

DR. WILLIAM J. RONAN, chairman of New York's MCTA, will talk about winning public support for transit.

GEORGE DEMENT, president of IRT, wants "a free-wheeling and informative discussion" at workshop sessions.

THOMPSON NOONER, program chairman for Atlanta meeting, also helped plan last year's "City X" parley in Boston.

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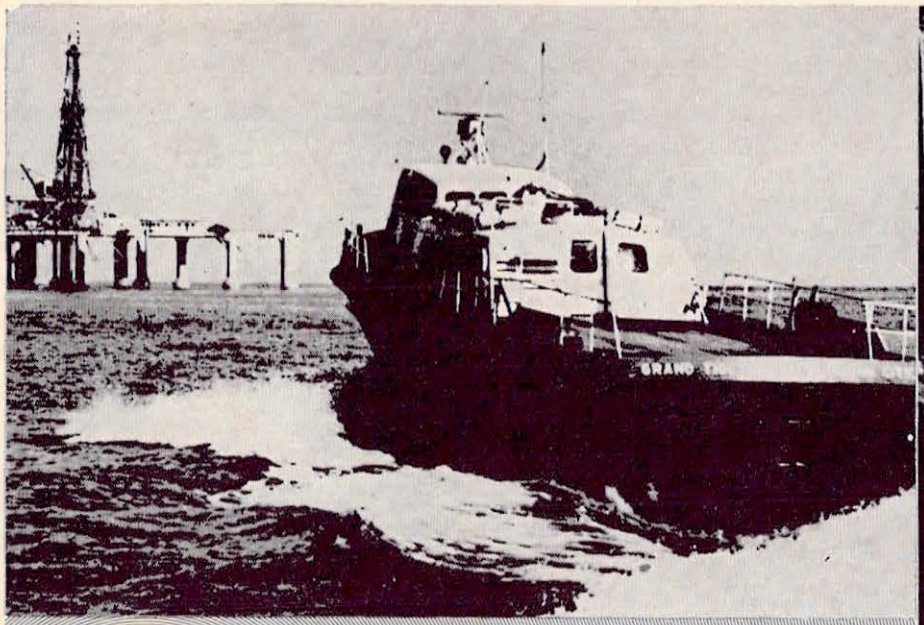
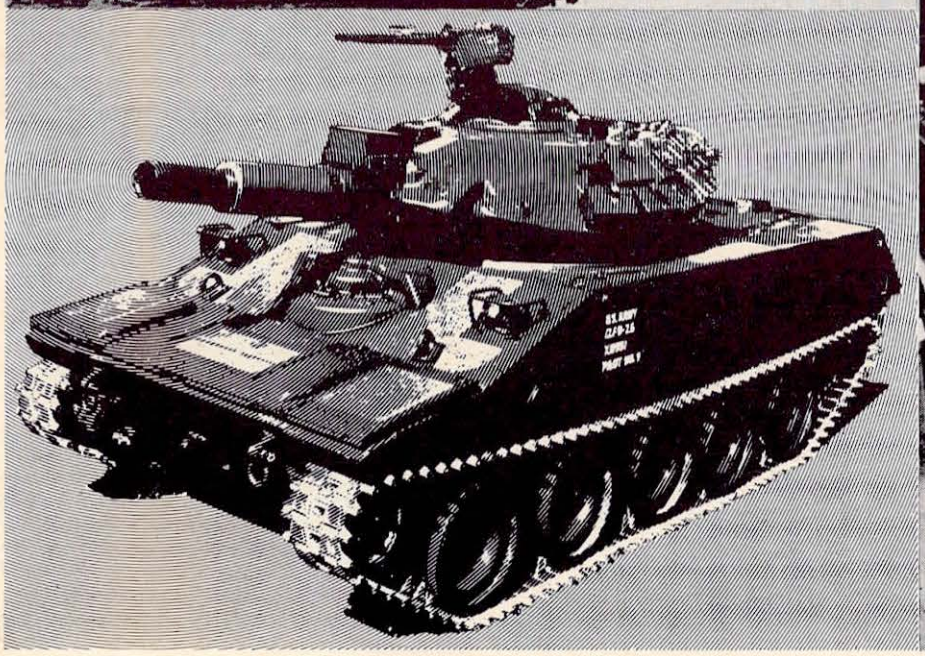
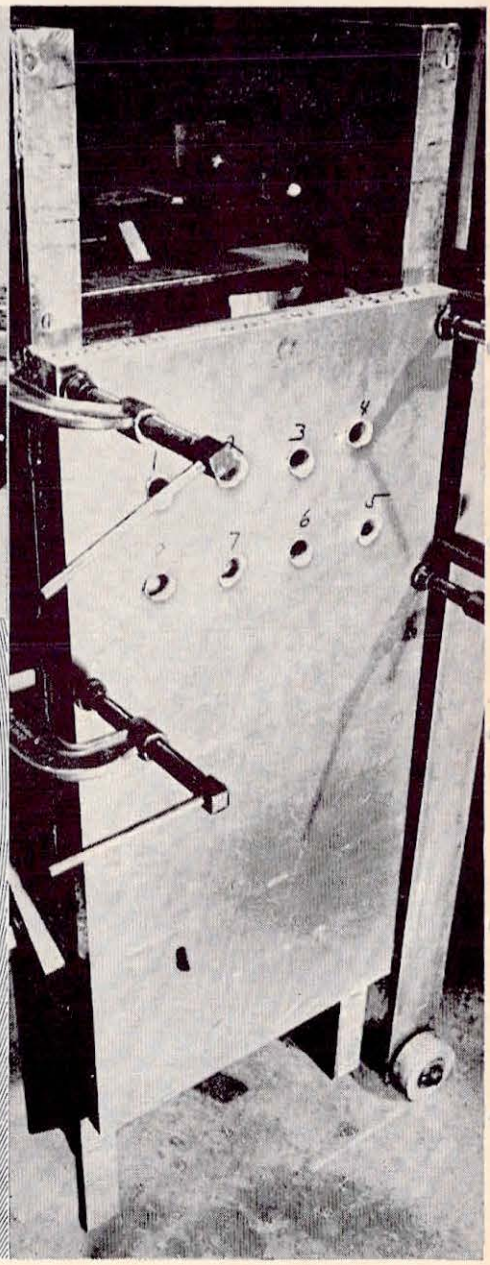


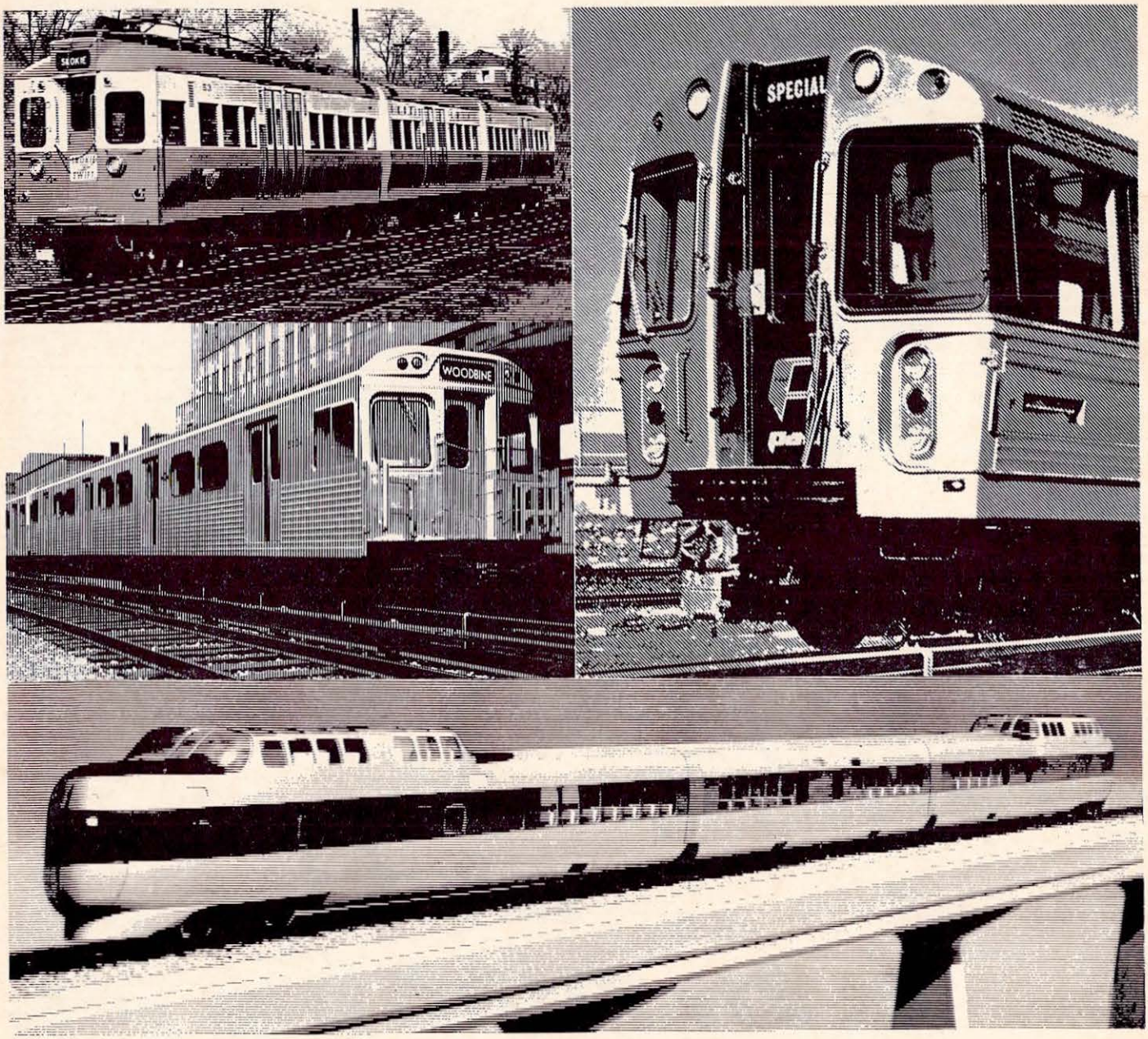




modern army move faster, travel farther. This same lightweight advantage means a faster, more efficient transit system. Less wear on brakes and engine parts. Less power requirement, too.

Aluminum is the designer's metal. Design a transit car with aluminum, and the added glamor will pay off in new passengers. Handsome Alcoa Aluminum in natural brushed, baked-acrylic, porcelain-enamel, laminated-vinyl, clear-beaded and anodized finishes is available off the shelf for your designs. Plus structural extrusions, patterned sheet, paneling, forgings, castings, trim and tread plate – beauties, all.

Alcoa Aluminum is the transit pioneer. Alcoa started the trend toward aluminum transit cars. And the idea caught on. In the past 12 years, more than 900 transit cars have been built with Alcoa Aluminum. We're ready to pioneer for you with the largest, most experienced technical staff in the aluminum industry. Our applications engineers will work with you from beginning to end with design, fabricating, finish and weight-saving techniques. Start out on the right track. Write: Aluminum Company of America, 1691 E Alcoa Building, Pittsburgh, Pa. 15219.



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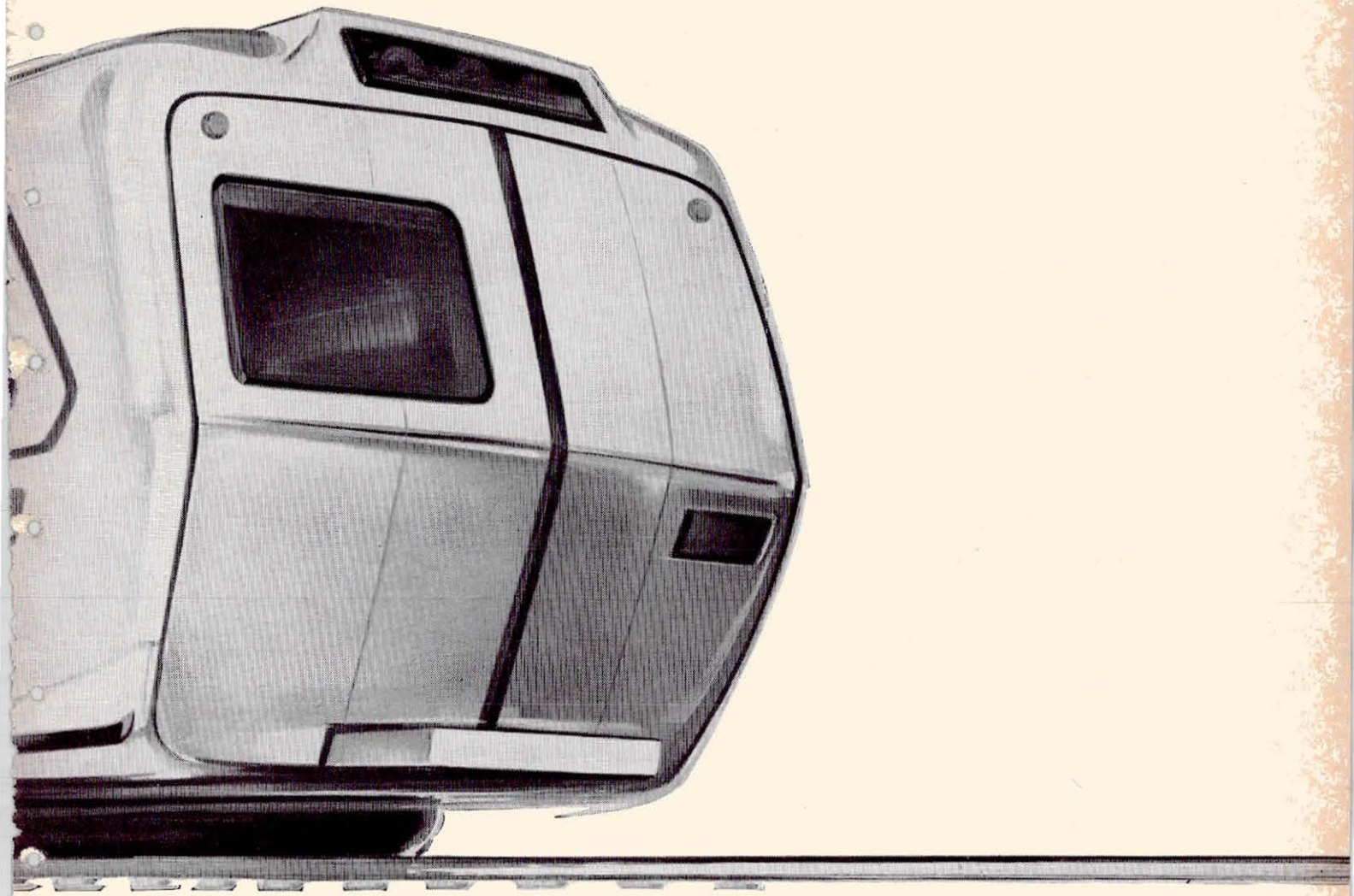
This 160 mph train has a lot of wheels turning... and it isn't even running yet.



The wheels started turning when the U. S. Government passed the High-Speed Ground Transportation Act of 1965.

The Budd Company got rolling on the design and construction of this train-of-tomorrow for the Government-sponsored New York-Washington Corridor. And the Pennsylvania Railroad swung into action to prepare for the demonstration project in co-operation with the U. S. Department of Commerce.

Next year, it will carry passengers. Speeding over tracks made of continuous welded rail, the electrically powered cars will cut running time between New York City and Washington, D. C. to less than three hours! And when they do, every wheel will turn on Timken® tapered roller bearings.

The men who put these cars together know bearings. They know how much depends on bearing reliability under big loads at high speeds. That's why they specified Timken bearings. They're tapered to handle both radial and thrust loads—or any combination. They stay positively aligned. They're made of tough case-carburized Timken bearing steel. And they're backed by Timken bearing experience. A lot for any train to have going for it.

The Timken Roller Bearing Company, Canton, Ohio, U.S.A. Timken bearings sold in 116 countries, manufactured in Australia, Brazil, Canada, England, France, South Africa and U.S.A.

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TAPERED ROLLER BEARINGS

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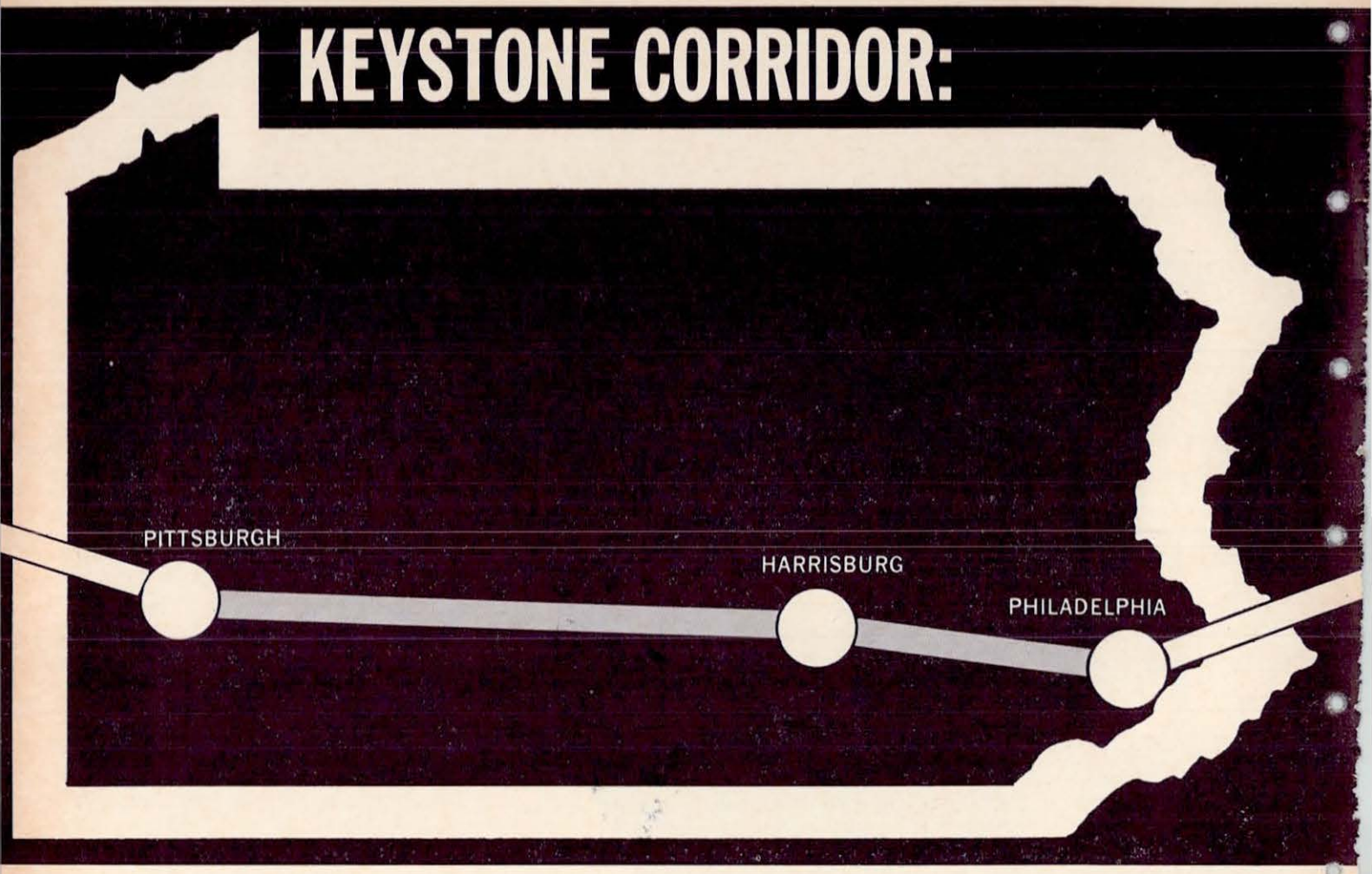

High-speed rail link mapped in Pennsylvania

If all the "ifs" are resolved, the Keystone Corridor project could cost $1 billion-plus.

How serious is Pennsylvania about creating a high-speed rail corridor through the Keystone State? Very serious, indeed, according to Gov. Raymond P. Shafer. He announced he will ask the legislature to create a Pennsylvania High-Speed Ground Transportation Authority to get the project rolling.

This Authority, he said, "would begin the research and development needed for our commitment to improve the Keystone Corridor as the major east-west route between the East Coast and the Midwest."

The announcement came at the Second International Conference on Urban Transportation held in Pittsburgh, and the state's chief executive went on to say that "development of a superior intercity transit system will provide new paths for rational urban development and growth."

● **$6.7 million as a starter.** As a first step, the Governor said, it is planned to put high-speed cars on the PRR right of way between Philadelphia and Harrisburg. He told assembled delegates he would ask state lawmakers for a $6.7-million appropriation to partly underwrite the scheme.

But the scope of the plan will be immensely broadened, the Governor indicated: "This is just the beginning of our efforts to create new high-speed service in the Keystone Corridor that will be the anchor for a vast new Keystone Transportation Network."

Many questions will have to be answered, particularly as to the scope of public involvement. "We must determine ownership and operation of such a high-speed system. We must determine how it fits into the whole scheme of developing all systems and modes to meet modern demands," the Governor said.

● **What WABCO found.** To help in finding the answers, the State last year commissioned a study by WABCO setting forth the alternatives and suggesting broadly what ought to be done.

The main findings in the WABCO study are these:

—A new right of way south of the

MASTER PLANNER

Governor Raymond P. Shafer did not initiate the WABCO study of the Keystone Corridor; his predecessor, Gov. William Scranton, did that.

Upon inheriting the study, and receiving its findings, however, he found it "exciting" and announced he would ask the legislature to create a Pennsylvania High Speed Ground Transportation Authority. As a first step, Gov. Shafer is requesting a $6.7 million appropriation for operation of high-speed cars on the PRR right of way between Philadelphia and Harrisburg.

Meanwhile, the Commonwealth is also stepping up its plans for urban mass transit: Gov. Shafer announced he is asking the legislature for a $30 million appropriation as the first installment in a $300 million ten-year plan for mass transit.

Important contributions will go to Philadelphia (where SEPTA prepared its own $460 million ten-year plan for the area), and Pittsburgh (where PAT is awaiting the findings of a feasibility report on rapid transit later this year).

PRR's main east-west line and the Pennsylvania Turnpike should be purchased for construction of a high-speed rail link across the state.

—The new line would stretch some 340 miles from New Jersey to the Ohio border, linking Philadelphia with Harrisburg, and Pittsburgh, and also hooking up with the Northeast Corridor on the east, and with possible future extensions to the west.

—The system should be geared for both freight and passengers, and have tie-ins with major urban transit systems, expressways, airfields and port facilities in the state.

—The line should be designed for maximum flexibility—both to accommodate new developments in technology and to tap many kinds of traffic.

—If an optimum four-track design is adopted from the first, the cost is put at about $1.3 billion. Otherwise—and this is more likely—the project can be accomplished in two phases over a much longer period, and the cost is pegged at about $1.6 billion—$1 billion in Phase One and the remainder in Phase Two. The first phase would be through 1975, the second after 1985.

In Pittsburgh, Gov. Shafer called the WABCO report an "exciting" one, and added that "it is estimated that [the recommended right of way] could be purchased for as little as $24 million now."

● **How to tackle it.** The WABCO study recommended a way of accomplishing this: Build a two-track high-speed rail line over a period of five years. Assuming the usual period of study, discussion and final design, the idea is that such a line could be in operation by 1975.

The line would stretch all the way across the state, skirting the hearts of big cities, much as the Pennsylvania Turnpike does, but there would be access spurs from the main population centers and possible satellite systems.

The line would have one track for 90-mph freight service, and one for 150-mph freight and passenger service. Assuming that single bridges and tunnels are built to take both tracks, the estimated costs are as follows: Graded right of way—$694 million; track—$138 million; building, yards, etc.—$115 million; rolling stock—$23 million.

In the next phase, probably around 1985 or 1990, the line could be made four-tracked, with two for 90-mph freight service and two for 150-mph fast freight and passenger service.

Assuming double bridges and tunnels for the two sets of tracks in the Corridor, additional costs in this phase are estimated as follows: Graded right of way—$356 million; track—$138 million; building, yards, etc.—$10 million; rolling stock—$103 million.

A number of conditions are attached to these projections, particularly with respect to shaping the service to make it economically viable.

The big emphasis on the high-speed line would be on high-rated freight and particularly TOFC and containers, and a premium should be charged for the service.

According to the report, conventional contemporary equipment can be used, but with maximum utilization of all the refinements just now coming into widespread use. Automatic high-speed materials-handling equipment would be used in conjunction with air-freight containers and other standard types. With service at 150-mph speeds, five-car unit trains for freight, passengers, or both, could be considered.

The line could also carry express, mail and parcel traffic. Here, too, a premium would be charged.

The roadbed of the high-speed line would be 81 ft wide, minimum radius of curves would be 10,000 ft, and maximum grade 0.5%.

● **Flexibility a must.** WABCO placed great emphasis in its study on building in flexibility. That is to say: Build the line so that it can handle many kinds of traffic efficiently; and build it so that new technological developments can be gradually phased into the operation, instead of making the whole system obsolete.

Examples cited are adapting the median strips for high-power transmission lines, for pipelines and communication lines.

Another possibility is moving small battery-powered automobiles by rail.

A continuing research and development program is recommended, to go hand in hand with actual construction and operation. This R&D program would particularly investigate the potential of 300-mph hovertrain-type craft and tilt-wing VTOL (vertical takeoff and landing craft).

The report does not recommend phasing in these craft at the present time. It does hold out the prospect that, in the post-1985 period, the tradeoff between speed, fuel costs, and general economics of operation may make such vehicles more attractive. If so, there is no reason why the Corridor right of way could not accommodate them.

To get the program under way, WABCO indicated the following organizational steps: Establish a Keystone Corridor Management program; determine types of ownership, operation and financing; arrange for land surveys, land acquisition and construction; coordinate planning with Northeast Corridor planning and with possible extensions west of the State; institute the continuing R&D program.

● **High-speed economics.** Much is made in the report of economic factors, no less from the point of view of the state than from the point of view of operating the high-speed line itself.

The central proposition is that a surface system is economically feasible and can best meet future demand for high-speed transport. A high-speed underground line, it is argued, whether tube or tunnel, would be too costly to build. An air link would be either too costly or insufficient in capacity.

Surveying traffic potential for the Corridor line and its implications for the state, the report found that the big task is to attract industries with growth characteristics. In spite of a premium charge for use of the line, it is believed, such industries would find such a line highly attractive to use and to be near.

Cited in this connection are the machinery and related industries (production equipment, computers, appliances, electronics, motor vehicles).

Also, the line would be attractive for producers and shippers of perishables, fashion items, LCL cargo; also to R&D organizations, the publishing and drug industries.

Lastly, there is the obvious "multi-

plier" effect on the economy of launching any project of this size, witness post-war Japan and Germany, and the state's own Pennsylvania Turnpike.

In short, the Keystone Corridor link is seen as a great boon to the state's economy, transforming its growth rate from one of the lowest to one of the highest.

The study also points out that travel demand is growing at a vigorous rate in any case, and if Pennsylvania doesn't act to creat such an east-west line, another state might, in which case the Commonwealth's economy may suffer a setback.

● **Low financial risks.** The point is stressed that if the system is inherently flexible enough, the financial risks are relatively low; as a hypothesis, it is mentioned that the Corridor could even be made a super-highway, if need be.

The latter is no more than conjecture, however. An important argument in the report is that one of the major business needs in the nation today is the need to reduce stockpiles and streamline inventories ($90 billion worth of goods are stored by wholesalers and manufacturers, it is stated).

The time required to move and store these goods represents an enormous loss to U.S. business, it is pointed out—and a high-speed high-performance link such as the Keystone Corridor would mean much in cutting that loss.

Looking beyond the project itself, there is the great prospect it holds out to become the connecting link in a network of high-speed lines.

The hookup with the Northeast Corridor is obvious; the report points out, however, that the Keystone link could bring the great population axis along the Northeastern seaboard into connection with a Cleveland-Chicago axis, where a high-speed line might be built at a later time—with possible branches to Detroit, Milwaukee, and other important cities of the northern Midwest.

Similarly, another high-speed line might extend from the western terminus of the Keystone line further south to Cincinnati, St. Louis, and other major population centers of the southern Midwest.

Still other possible links are from Harrisburg south to the Baltimore-Washington area, and from Harrisburg northeast to the Allentown-Bethlehem-Easton area, and on directly to New York City.

So far as the Keystone Corridor itself goes, the report finds the line capable of generating sufficient traffic to produce a surplus of operating revenues over expenses, including debt retirement.

In other words, the Keystone Corridor should be a real moneymaker. ■

Pittsburgh keeps a promise

The second Urban Transport Conference was all its sponsors said it would be, and more.

Sponsors of the Second International Conference on Urban Transportation promised something for everybody. Well, everybody came, or it seemed that way (registration was in the neighborhood of 1,300)—and the Pittsburgh sponsors delivered on their promise.

The Vice President of the U.S. came; governors of three states came; the subway chiefs of Paris and Berlin made speeches (Moscow's transit manager was a last-minute cancellation); nearly every state was represented, and a dozen foreign countries. The genuinely international flavor of the conference was emphasized when delegates from Nigeria and Brazil tossed questions from the floor to the governors' panel. In the press room, a Helsinki correspondent exchanged notes with the man from Radio Prague. In the WABCO hospitality "suite" (a stern-wheeler tied up close to the Hilton Hotel headquarters) the head of the Soviet technical mission at the USSR Embassy in Washington briefed delegates on Russia's transportation problems (defending the high cost of autos in the Soviet Union as one way to reduce highway congestion).

Reporters who collected all the speeches delivered at the conference had a stack a foot high. Some extracts give an indication of the wide diversity of topics explored at the conference:

Vice President Humphrey: It's time to put a stop to the "continuing and unequal struggle between the motorist and the transit rider to determine the character of the modern city. . . . The logic of the highway user would convert downtown real estate into a great and expanded parking lot, and the logic of the transit advocate would require city-like densities of population in the suburbs." Washington has become involved in transit problems but "we haven't done enough."

N.Y. Gov. Nelson Rockefeller: "Time wasted is money lost. . . . We cannot lose time waiting for greater federal assistance. . . . Congress has authorized $675 million in federal aid for urban mass transportation over a five year period for the entire country. We are planning $1 billion in state aid for the same purpose for a similar period for New York State alone."

Montreal Mayor Jean Drapeau: "We decided that mass transportation is a must in a great city. . . . We decided not to wait any more . . . to proceed at the expense of the citizens of Montreal and build it [a subway system] and pay for it. Because as long as we had waited for financial assistance—well, I must tell you that even now we don't have financial assistance so we couldn't have even started the subway."

N.J. Gov. Richard J. Hughes: "The time-honored concept of the private automobile as the primary answer to our daily transportation needs is just no longer efficient or practical."

Pierre Weil, director general, Paris Metro: "The world today is living the Second Age of the rapid transit underground and surface railways. . . . Rapid transit is the only means of mass passenger transportation which is acceptable in our concentrated cities. It helps the life of men just like blood circulation in a human being."

Walter Struwe, technical director, Berlin Metro: "Our new trains have only one operator per train. At some stations television has been installed for train dispatching. An automatic train is being tested, but it is not intended to let trains operate without attendants."

New York City Transit Commissioner John J. Gilhooley: Transit men "will be forced in the next decade to take a fresh, hard look at new, more imaginative and innovative schemes of incentive compensation which will more specifically relate the industry of the individual workman to the gains that he receives from that industry."

U.S. Senator Abraham Ribicoff: "On a typical weekday, 3.5 million people enter Manhattan south of 52nd Street. Most of them travel by railroad, subway and bus. And we can thank our lucky stars for that—because if they came by car it would take all the usable building space from 52nd Street south to the Battery—five levels high—just to park them."

When it was all over, everyone agreed: Pittsburgh in general, and Program Chairman Frederick J. Close (board chairman of Alcoa) in particular, had done themselves proud. And what was in it for Pittsburgh? Said U.S. Steel President Leslie B. Worthington: "Considering the diversity and ability of Pittsburgh's industrial community, I believe the most worthwhile solutions to such complex questions as mass transit will originate right here." ■

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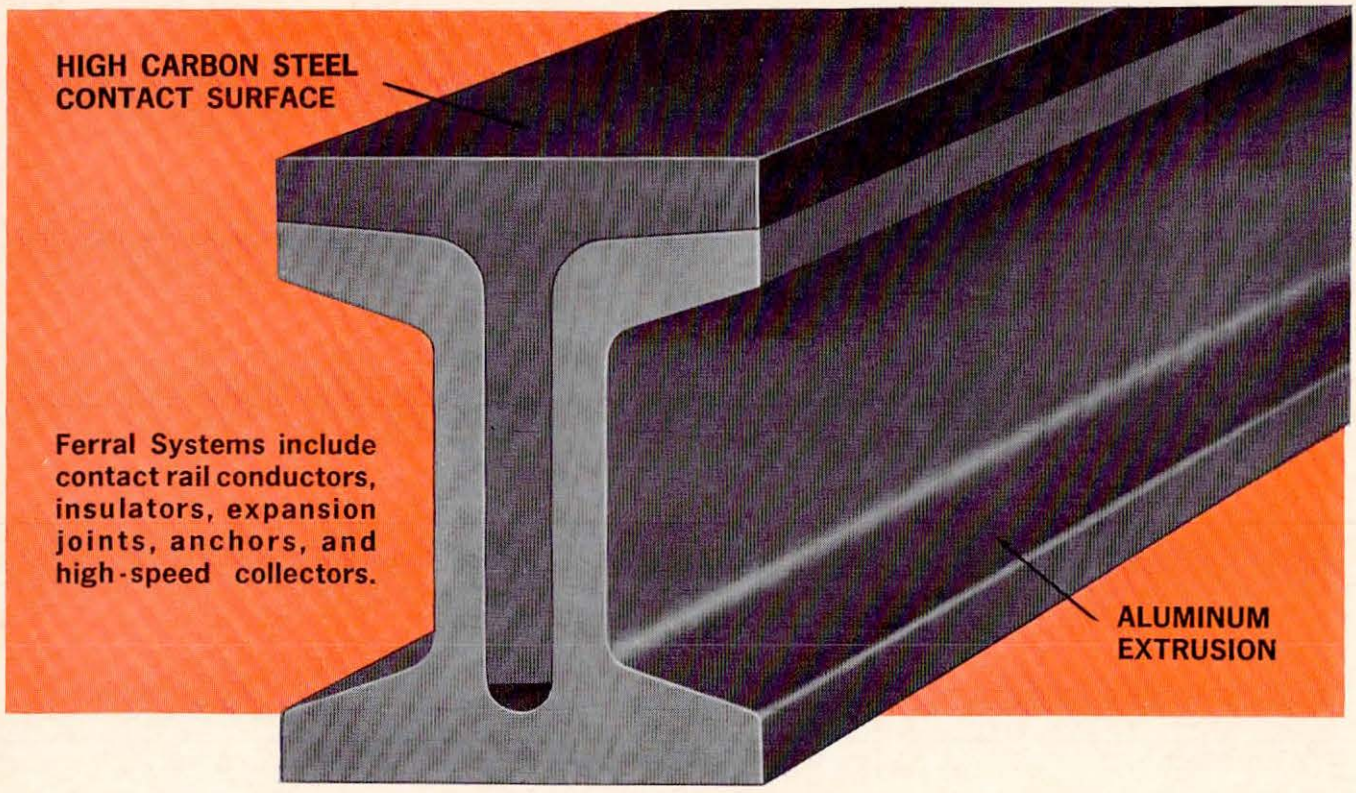
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Ferral Systems include contact rail conductors, insulators, expansion joints, anchors, and high-speed collectors.
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Circle 1 on reader service card

EXPO HYPO

WABCO-controlled Massportation System Speeds Expo Visitors in Montreal

The most functional operation at Canada's Expo '67 is the transportation system—eight six-car trains capable of whisking 30,000 visitors an hour throughout the Exhibition. Masterminding the arrivals and departures of these trains is a highly advanced control system, designed and installed by WABCO.

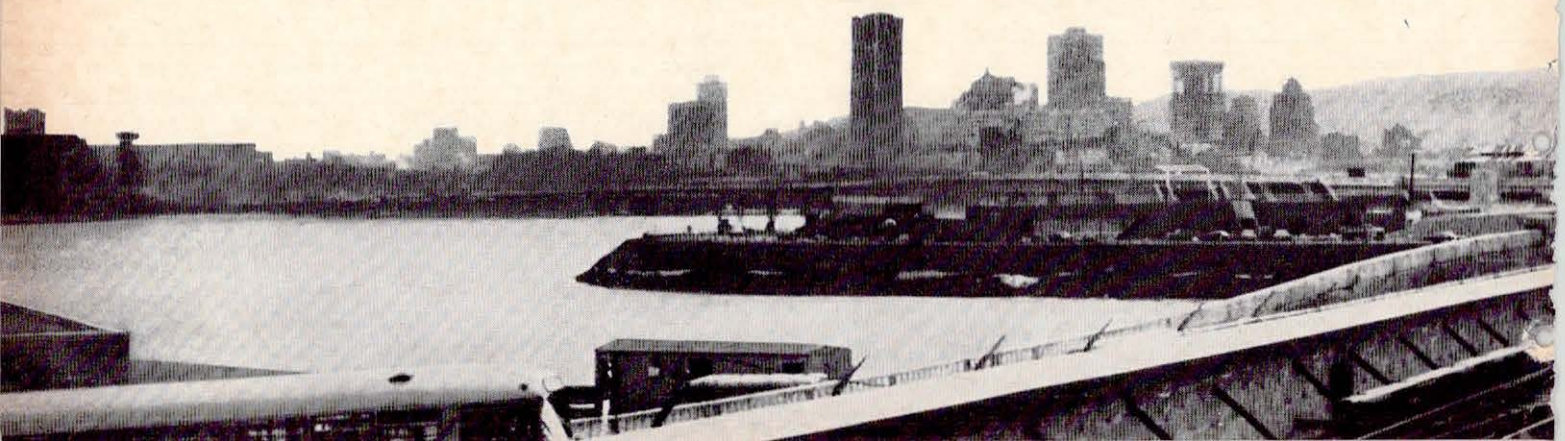
At the system's Control Center, WABCO furnished the display panel for visual monitoring of each train's position and progress by the dispatcher, plus a control console which allows him to operate the system manually, i.e., management by exception.

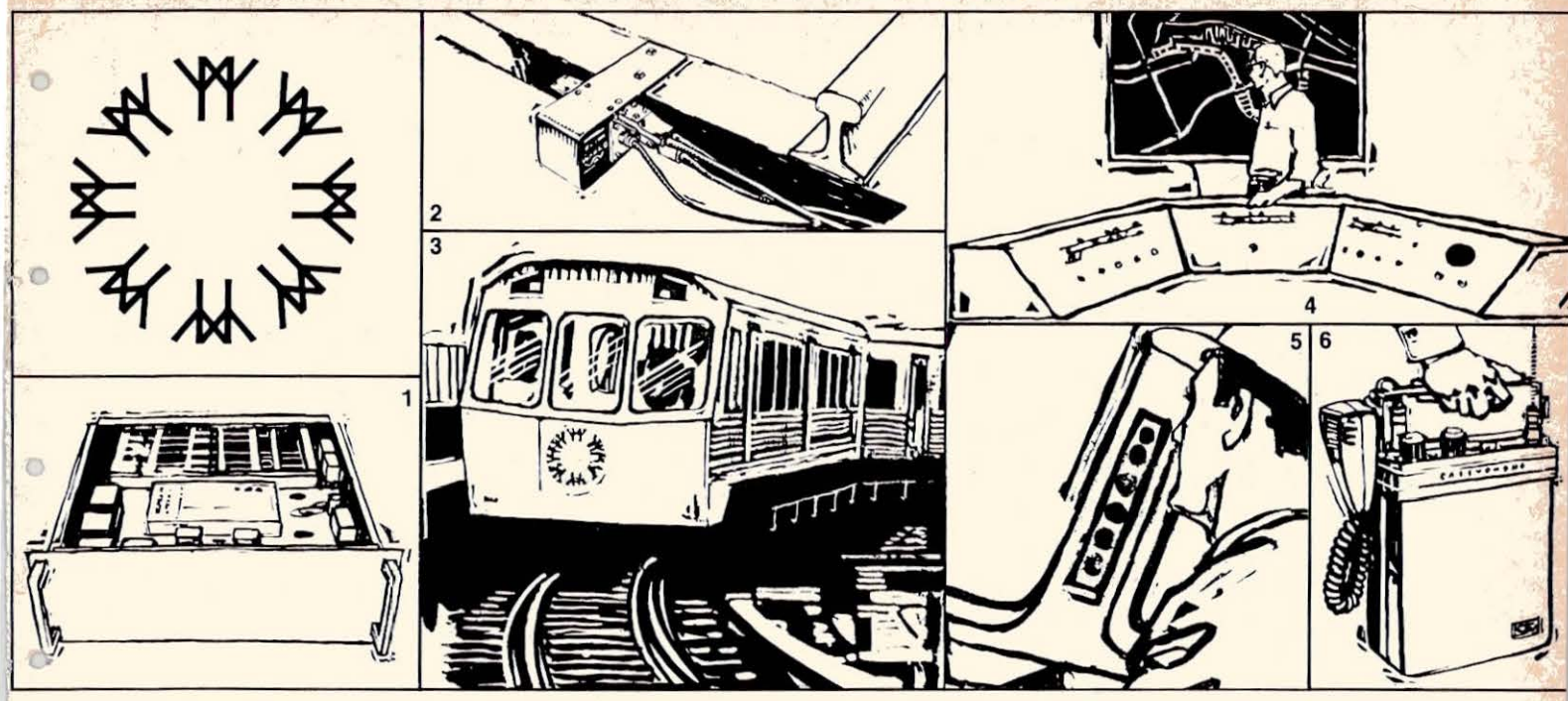
WABCO's Wayside Equipment—audio frequency track circuits and speed commands for train detection, train separation and speed control—optimize the system's efficiency by tightening headways and keeping trains running at maximum allowable speeds at all times.

Trains are scheduled to arrive and depart every 2½ minutes. The train attendant's only job is to push buttons in his cab that open and close the doors and start the train.

Finally, WABCO train-carried equipment receives electronic speed command inputs inductively from the rails and converts them into commands for smooth, safe propulsion and braking.

Result: the Expo Express is a seven-league stride in massportation technology—the first automated urban mass transit system in the Western Hemisphere.





WABCO "building blocks"—stepping stones to automated mass transit systems.

1. WABCO's velocity control programmer translates electronic speed commands into propulsion and braking controls.

2. WABCO's Minibonds provide connections for audio frequency track circuits that eliminate insulated joints and permit installation of welded rails.

3. Expo Express—The rapid transit train of the future.

4. A control panel like this one at Expo '67 monitors the train operation and gives the dispatcher override control.

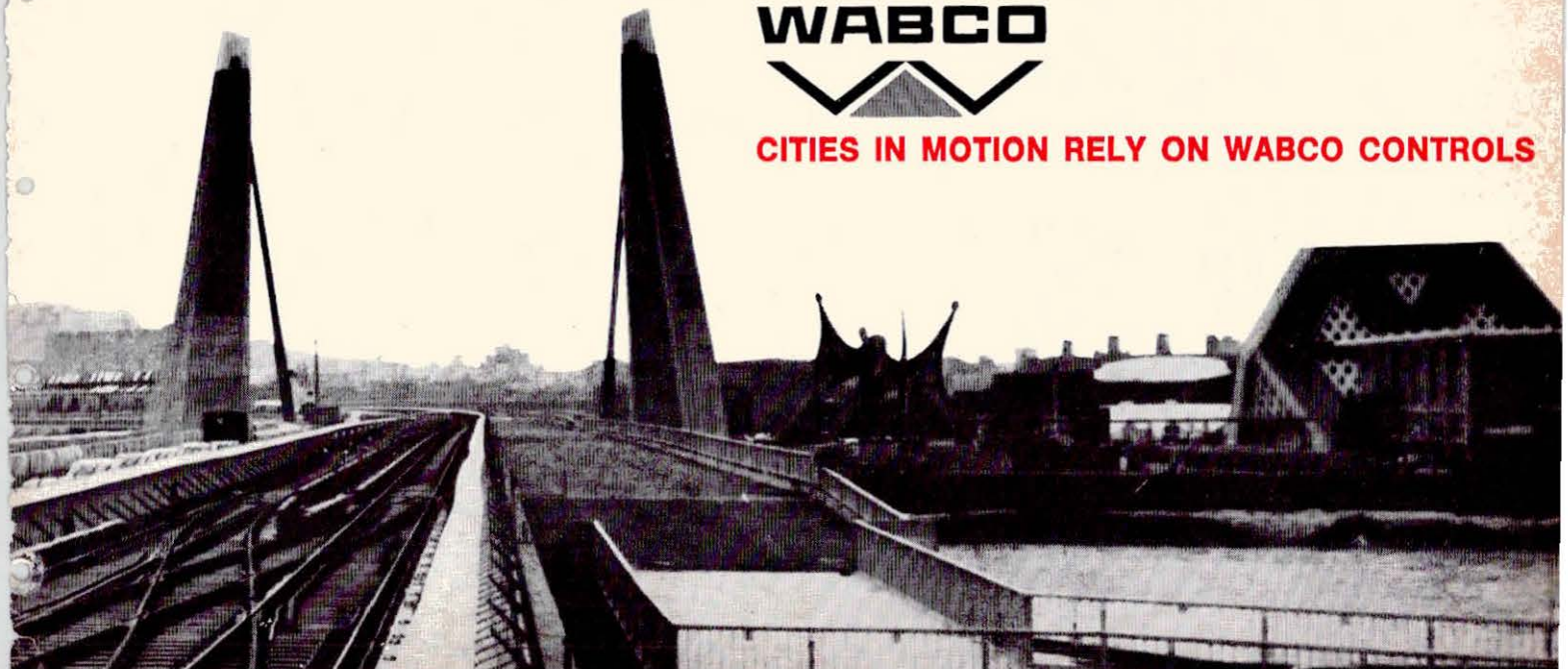
5. Cab signals like this permit the train attendant to monitor electronic speed commands being received aboard the train.

6. Carryphone® two-way radios permit voice connection between dispatcher, train attendants and maintenance crews.

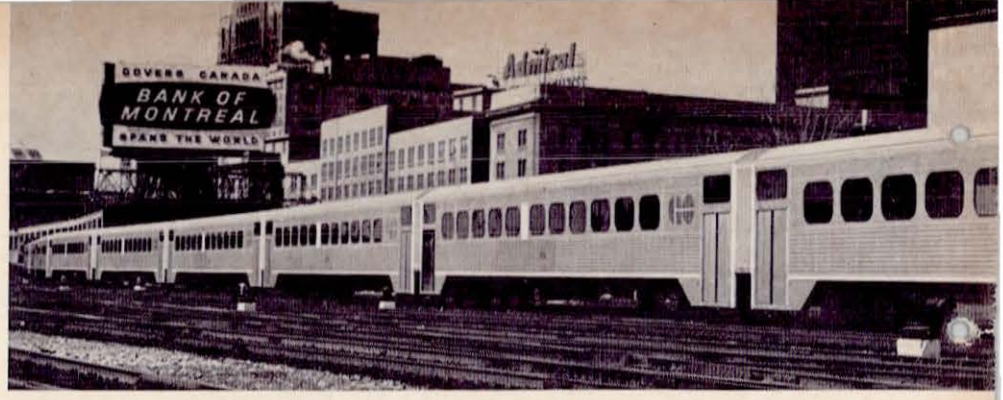
A 21-minute, 16mm color film, "EXPO EXPRESS," is available on request for showings to interested groups and organizations. For information on this film, or for details on WABCO's combined massportation capabilities, write Mass Transit Center, Westinghouse Air Brake Company, Pittsburgh, Pa. 15218.

WABCO

CITIES IN MOTION RELY ON WABCO CONTROLS



LAKESHORE ROUTE, part of CN main line, will be traversed by GO's high-frequency service. Presently CN has only two commuter runs between Hamilton and Toronto.



Toronto transit: New from the word GO

Ontario aims to solve a metropolitan traffic dilemma, not with new roads but with a $15-million railroad investment.

GO is the word in Metropolitan Toronto this month. On May 23 Government of Ontario Transit (GO) will inaugurate North America's newest rail commuter service.

The 60-mile GO route is the existing main line of the Canadian National through Toronto. The concept of the commuter operation and virtually everything about it, however, is completely new. Even the green GO symbol with the white T lying on its side has been developed in the course of a carefully evolved promotional program.

● **Wooing auto rider.** Practically all features—stations, rolling stock, fare structure, ticketing and service frequency—are newly developed. They were designed specifically to attract present-day automobile users off increasingly congested highways of the Lake Ontario shore region east and west of Toronto. Almost every phase of the latest in rail technology, as it applies to commuter service, will be put to the test by the GO operation.

The Government of Ontario has already bet $15 million in capital expenditures on the effectiveness with which today's railroading can compete with the highway in commuter handling. It regards the $2-million annual subsidy which GO Transit will require as vastly cheaper than moving a comparable number of riders over highways which otherwise would have to be built to accommodate them.

● **Only the beginning?** In seeking (and winning) authorization for the GO program, Ontario Premier John Robarts told the provincial parliament that the anticipated 15,000 daily riders would, if they were to commute by private auto, soon require four new freeway lanes. The initial GO route may also serve as a pilot project for other rail lines radiating from Toronto.

The upcoming operation will be the first in Canada to be designed specially for rail commuters. Others evolved as cities grew and used existing railway equipment and facilities.

Among the features of the new GO service are:

—More than 2,000 parking spaces, most free, at nearly all the 14 stations east and west of Toronto;

—Off-train ticket collection for most passengers;

—Hourly off-peak schedules through 20 hours daily and 20-minute frequency during week-day peak periods;

—Push-pull or self-propelled train operation to minimize turnarounds and permit individual trainsets to make up to 1,000 miles daily;

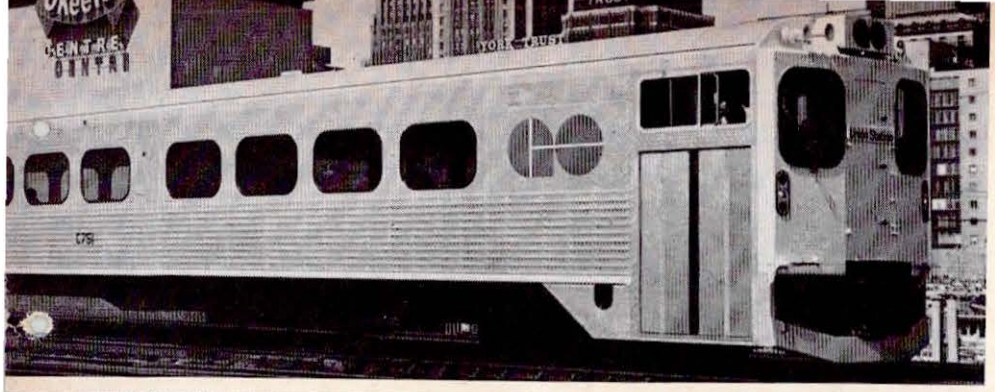
—Auto-competitive coach interiors in which greater seating capacity was deliberately sacrificed for comfort;

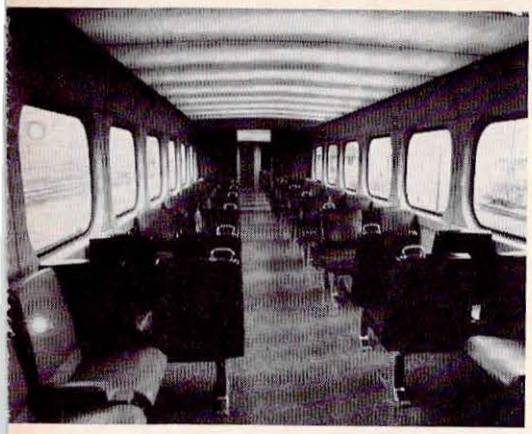
—Extra-wide coach vestibules and steps with powered folding doors operated from a central point to speed loading and unloading.

● **CN operation.** Operating agency for the new service will be the Canadian National. Construction of CN's Toronto Yard and bypass line around Toronto (RA, May 24, 1965, p. 15) cut traffic over the Lakeshore line so that it became possible to consider a high-frequency suburban service.

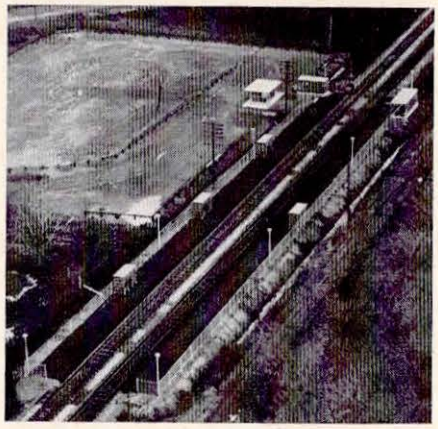
Carefully instrumented performance studies of the new GO trainsets are being conducted to produce data for CN computers, which will then fit the added service into what is still a tightly scheduled and carefully controlled route between Hamilton and Pickering.

Extensive work on the track and signals of the line is nearing comple-





AUTO-COMPETITIVE coaches feature bucket seats, wide windows.



ROUGE HILL, prototype station, has free parking, 350-ft platforms.

tion. Construction of parking lots, stations, underpasses and platforms is being pushed. In addition to Toronto Union Station, only two existing CN stations will be used as GO Transit stops. All the new structures are of a special modular design involving aluminum panels and tempered glass.

● **Two-part tickets.** The low-level train-length platforms are fenced as part of the off-train ticket collection system. GO tickets are divided in two parts. One portion is collected on entering the originating station and the second is deposited on exit at the destination.

The 94-seat coaches incorporate many features designed to speed operation and attract customers. All 49 are coming from the Canadian Car plant of Hawker Siddeley Canada at Fort William, Ont.

● **Push-pull trains.** Forty cars, equipped for push-pull operation, will be handled by eight new 3,000-hp General Motors Diesel locomotives. Each locomotive has a separate 790-hp diesel alternator set for train lighting, heating and air conditioning. Eight of the cars will have an operator's station in one vestibule.

Nine cars are to be self-propelled—seven having a single set of controls and two having controls in both vestibules for possible use as single units. All cars, self-propelled and locomotive hauled, are of one basic aluminum and alloy-steel design. All have the same external appearance and interior arrangement. Each car is 85 feet long. The unpowered cars weigh 65,000 pounds.

● **Self-propelled cars.** A 330-hp Rolls Royce traction diesel with torque converter drive and a second, smaller GM diesel for auxiliary power (both underfloor mounted), add about 20,000 pounds to each self-propelled car. The design of all coaches involves a high degree of standardization and interchangeability with a view to eventual conversion of all the rolling stock to self propulsion.

A major factor in short station stops will be the rapid passenger loading which will be possible with the extra-wide 4½-foot vestibules and powered folding doors operated from a central location in the train. The double-stream folding doors are actuated by Vapor Doortrol electric motors. The aim is loading of every car to its seating capacity in one minute.

● **Bright interiors.** Special bucket seats for 94 passengers are installed in each of the bright, air-conditioned cars. GO has the first major installation of Vapor's recently designed Injectaire air-distribution system combined with a Trane compressor-condenser-evaporator unit which is mounted under the car. Air is drawn from the carbody through openings under the seats, to be mixed with fresh air in a plenum chamber prior to filtering and heating or cooling as required. The air is returned to the carbody by means of 3,600-cubic-foot-per-minute circulating blowers through ducts mounted beneath the car's side sills.

The relatively high pressure air circulated in these ducts is discharged through venturi nozzles just above the floor level, entraining air from the passenger compartment in the process. All the air then passes up through side wall ducts and is discharged through a special diffuser in the sill just below each window.

The Injectaire system is designed to produce even distribution of conditioned air through the entire carbody. The maximum temperature variation is 2 degrees. To overcome humidity problems, air is intentionally over-cooled and then reheated to reduce its moisture content. The system incorporates a 12-ton cooling system and heaters totaling 48 kilowatt. A temperature of 70 degrees F. can be maintained at ambients ranging from minus 20 degrees F. to 100 degrees F.

● **Translucent ceiling.** The 575-volt power for lighting, as well as air conditioning and heating, is distributed by a three-wire train line. Illumination is supplied by 20 fluorescent fixtures mounted above translucent plastic panels that serve as the entire ceiling of the car and diffuse light evenly and without glare.

Seats consist of fiberglass reinforced plastic shells in which are thick cushions, upholstered in black or sand-colored vinyl. Interior side-wall panels are doeskin-colored plastic. End panelling is green. Bulkheads are faced in ebony and rosewood finishes to break up the car's length and emphasize the brightness and luminosity of the interior design. The terrazzo-like floor covering consists of chips embedded in a layer of vinyl plastic to produce a durable, easily repaired surface.

● **Inboard-bearing trucks.** Trucks are of inboard, roller-bearing design, with one-piece frames of cast-nickel steel. The trucks virtually duplicate those used by the Toronto Transit Commission. The bolster is supported on a pair of combination air and steel-coil springs. The air springing is designed to support the live load and has automatic pressure to maintain the floor at constant height.

Torque from the 330-hp engine driving each self-propelled car is transmitted through a three-stage torque converter and reversing gear box, cardan shafts, and Safety right-angle-drive gear boxes to both axles of the adjacent track. ■

Katy chief outlines railroad potentials

The best railroad service could be provided with all U.S. rail mileage properly divided among transcontinental systems. These systems would be great corporations, comparable with the most successful industrial and public utility companies.

Efficiency and service standards of such systems would far surpass the best now obtainable. A high proportion of all freight movement (except short-haul) would be recovered and new traffic would be generated. The revitalized railroads would operate fast, high-capacity passenger trains.

This vision of the possible railroad future was set forth by John W. Barriger, Missouri-Kansas-Texas president, at the annual convention of the Southern Gas Association in Dallas, Tex.

● **Cheaper than highways.** The super railroads envisioned by the Katy chief could be built at a fraction of the per-mile cost of a superhighway or an artificial waterway, he said. Such a super railroad would provide 150-mph terminal-to-terminal schedules for trains comfortably accommodating 1,000 passengers. Freight movements would average between 70 and 90 mph.

"The maximum potentials of modern engineering would minimize the obstacles of grades, curves, relative distances and other forms of resistance and friction," Barriger continued. "Permanent ways and structures, tracks, signals and communication facilities would all become representative of the highest standards. Trains would be composed of cars and locomotives that could utilize the full load and speed potential of such a plant."

The new railroads would have electrified main lines using locomotives with up to 15,000 hp in a single unit. Yards and terminals would be redesigned to meet intensified time requirements. Shops and other properties would be similarly improved.

Railroads can reestablish themselves in this manner as the major assembly lines of the nation's economy, Barriger said. All they need is the freedom appropriate to future conditions. ■

How Railroads Spent $1.6 Billion

Purchases of Fuel, Material and Supplies
Class I railroads—Calendar years 1966 and 1965

	Item	1966	1965
FUEL			
1.	Fuel oil—Diesel	$ 368,053,000	$ 341,123,000
2.	Fuel oil—Residual	9,640,000	10,176,000
3.	Coal (anthracite and bituminous)	9,477,000	8,960,000
4.	Gasoline	10,989,000	10,491,000
5.	All other (coke, wood, etc.)	2,914,000	3,538,000
6.	Total fuel	401,073,000	374,288,000
FOREST PRODUCTS			
7.	Cross ties	$ 70,930,000	$ 55,191,000
8.	Switch ties	7,418,000	6,323,000
9.	Lumber (bridge and building, piling, posts, bridge ties)	15,954,000	14,952,000
10.	Lumber, equipment (including manufactured articles)	25,073,000	21,819,000
11.	All other forest products	6,058,000	5,370,000
12.	Total forest products	125,433,000	103,655,000
IRON AND STEEL PRODUCTS			
13.	Rail (new and secondhand, except scrap)	$ 78,711,000	$ 57,011,000
14.	Axles, tires and wheels for cars and locomotives	55,545,000	60,014,000
15.	Track and switch material	82,540,000	70,716,000
16.	Steel bridges, turntables, sheet piling	2,725,000	2,815,000
17.	Iron & steel (bars, shapes, sheet, flues & tubing, chain & wire netting)	26,132,000	25,312,000
18.	Locomotive forgings & castings (gray iron, malleable or steel, & trucks)	7,365,000	6,790,000
19.	Car forgings & castings (gray iron, malleable or steel, brake beams, couplers, draft gears, metal car roofs, auto loaders & trucks)	137,812,000	142,312,000
20.	Bolts, nuts, washers, rivets, lag screws, pins and studs	7,303,000	6,685,000
21.	Springs, elliptical and helical, for cars and locomotives	6,311,000	5,603,000
22.	Tools, track & roadway, all kinds, & parts (except automotive equipment, aircraft, & parts)	14,171,000	12,682,000
23.	Machinery and parts	25,749,000	22,519,000
24.	Pipe, iron and steel, pipe fittings, and plumbing fixtures	6,191,000	6,069,000
25.	Hardware, hand and small machine tools	24,648,000	22,237,000
26.	All other iron and steel products (including cast iron water pipe and culvert pipe)	7,341,000	6,160,000
27.	Total iron and steel products	482,544,000	446,925,000
MISCELLANEOUS			
28.	Building materials (brick, cement, gravel, lime, sand, stone, roofing, siding and fencing)	$ 8,539,000	$ 8,494,000
29.	Illuminating oils, lubricating oils and greases, journal lubricating pads, wiping rags and waste	46,866,000	47,810,000
30.	Non-ferrous metal and products	24,479,000	24,461,000
31.	Ballast and riprap	20,917,000	21,677,000
32.	Electrical materials (incl. electrical material for diesel locomotives)	63,792,000	60,788,000
33.	Stationery, printing and office supplies	36,525,000	33,091,000
34.	Commissary equipment and supplies	16,415,000	15,667,000
35.	Rubber and leather goods	7,524,000	7,057,000
36.	Chemicals, compounds, drugs, glass, laboratory equipment, lacquers, painters' supplies, paints, varnishes	42,410,000	39,788,000
37.	Passenger car trimmings	11,381,000	15,080,000
38.	Locomotive, train and station supplies	28,319,000	26,177,000
39.	Communication and signal material	60,173,000	53,281,000
40.	Air brake material	21,499,000	21,968,000
41.	Appliances for locomotives	5,449,000	5,434,000
42.	Automotive equipment and aircraft, and parts	16,519,000	13,398,000
43.	Diesel material not elsewhere classified	106,661,000	98,299,000
44.	All other miscellaneous	78,344,000	80,721,000
45.	Total miscellaneous	595,812,000	573,191,000
46.	Grand total	$1,604,862,000	$1,498,059,000

Source: Reports of the carriers to the Bureau of Railway Economics.

Transport conference to meet in Chicago

BRT-sponsored meeting plans to offer wide variety of opinion.

SOME KEY FIGURES in the forthcoming Brotherhood of Railroad Trainmen Conference on Public Transportation: BRT President Charles Luna (above, left); J. Douglas Carroll (above, right), executive secretary of the Tri-State Transportation Commission, New York; Sen. Harrison A. Williams, Jr., of New Jersey (below, left); and Harold M. Mayer (below, right), professor in the Department of Geography, University of Chicago. Both Carroll and Sen. Williams are scheduled to address the conference; Mayer will act as coordinator of the conference.

It won't be all sweetness and light when the Brotherhood of Railroad Trainmen holds its Conference on Public Transportation May 5-7 at the University of Chicago.

A sampling of comments from preconference papers and a glance at the roster of participants seem to guarantee interesting sessions. What the BRT is assembling is not a group of people who share ideas and get together to agree with each other.

The emphasis at the conference will be on discussion. A number of essays on public transportation have been prepared—but they'll be distributed to the 70-or-so participants for study. Virtually all conference time will be reserved for open, wide-ranging and free-wheeling conversation.

Principal exceptions to this will be in what the BRT calls the first annual Brotherhood Lecture on Public Transportation—which will be given by J. Douglas Carroll, executive secretary of the Tri-State Transportation Commission in New York—and in an address by Sen. Harrison A. Williams. Jr., of New Jersey.

• **Variety's the spice.** As one indication of the variety of opinion which will be represented at the conference, BRT people point to comments like these, taken from conference papers:

—"Transit today is a product-oriented, rather than a market-oriented, industry . . ."

—"What factors are causing lags in transit implementation? One obvious answer is politics. Building a rapid-transit system is a long-term project. Chances are it cannot be completed during a single term of office . . ."

—"One of the tongue-in-cheek suggestions for dealing with our vehicular transportation problems has simply been to pour cement over one of the afternoon traffic jams, let it set, paint new lines on it and start fresh again . . ."

—" 'Mass transportation' is a propaganda gimmick. The rail proponents consider six people in an electric rail car to be 'mass' but 150,000 people on a freeway is just the private automobile . . ."

—"The pitchmen have equated 'rapid transit' with God, home, flag and motherhood. . . . Any politician who would oppose such projects is put-

LUTHER MILLER

AS THE EDITOR SEES IT...

CHALLENGE—From Lake City, Minn., Melvin C. Malles writes to protest our publication of what he considered to be "a very slanted article" on the Florida East Coast (March 27, p. 8). "You report," complains Mr. Malles, "that FEC employees get the usual fringe benefits and then print parallel columns which show that the rates paid on FEC under new rules are higher than those paid at the national rates for 100 miles or 8 hours.

"Responsible journalism," continues Mr. Malles, "would require some indication that FEC rates for eight hours are not at all comparable to rates for eight hours or 100 miles at national rates. Surely Railway Age editors know that 'Hiawatha' crews on the Milwaukee, for example, running from Minneapolis to Milwaukee in 6 hours, are paid for 336 miles or more than triple the FEC rate."

We agree that it ought to be pointed out that FEC crews who work eight hours are paid only for eight hours' work—not more than three times that amount; and we are pleased to underscore our Lake City correspondent's point.

AND RESPONSE—R.W. Wyckoff, FEC's vice president, believes that FEC engineers, under the road's new working rules, are amply paid for work performed. He tells me that on April 12, the last date for which complete payroll records were available as he talked, the railroad's eight through freight engineers received an average of $44.24 each; the 15 local freight engineers were paid an average of $33.42; and 30 yard engineers got an average of $29.12.

As for the mileage basis of pay—"How can anyone," asks Mr. Wyckoff, "justify the equivalent of three and one-third days' pay for 6 hours' work? Since such payments obviously are not justified, it is manifest that the involved work rules have not kept up with the times. The Organizations are the first to demand increased wage rates to keep their constituents on a comparable footing with employees in other industries but they resist by every means efforts to modernize working agreements, to give recognition to faster train schedules made possible by improved equipment, track structures, and so forth.

"It is this shortsightedness on the part of railway unions which has cost thousands of jobs, the outmoded rules preventing railroads from competing with other forms of transportation as they could were it not for the restrictive work rules and the unwarranted expenses imposed by featherbedding and make-work provisions."

PROFIT WITHOUT HONOR?—Getting back to Mr. Malles and the question of responsible journalism: He wonders if the "modest profit" which we applaud doesn't result from FEC's "notorious refusal to pay its tax bills." The most responsible answer we know to that comes from the "FEC Bulletin," April 1, 1967, edition: "FEC's 1966 property taxes, for which payment has been completed to Florida counties and municipalities, amounted to $1,449,186.53. This represented an increase of $192,926.57, or 15½% over similar taxes paid in 1965."

POSTSCRIPT—Another correspondent, Lester O'Shea of San Francisco, offers what could be a meaningful postscript to the above. Distressed by our recent not-very-optimistic report on the state of the long-haul passenger train, Mr. O'Shea had several suggestions for remedying the situation.

Among other comments was this one: "If archaic rules are the problem one would think workers could be persuaded, as attrition goes along, to accept fewer jobs in preference to none."

One would think so, indeed. But those who insist that a passenger train engineer get three days' wages for six hours' work apparently don't agree.

ting his political life in jeopardy . . ."

—"Urban transportation is much more than moving people from one place to another. It is part of the whole fabric of urban life . . ."

—"Reduced to its fundamentals, a regional transportation system is simply an arrangement consisting of a number of superimposed coordinated networks. As the city continues its metamorphosis from a point or a place to a widespread polynucleated space, it is becoming increasingly evident that requirements for urban mobility cannot be met as well by highway-dominant, rail-dominant or air-dominant networks in themselves as by a well-coordinated combination of all . . ."

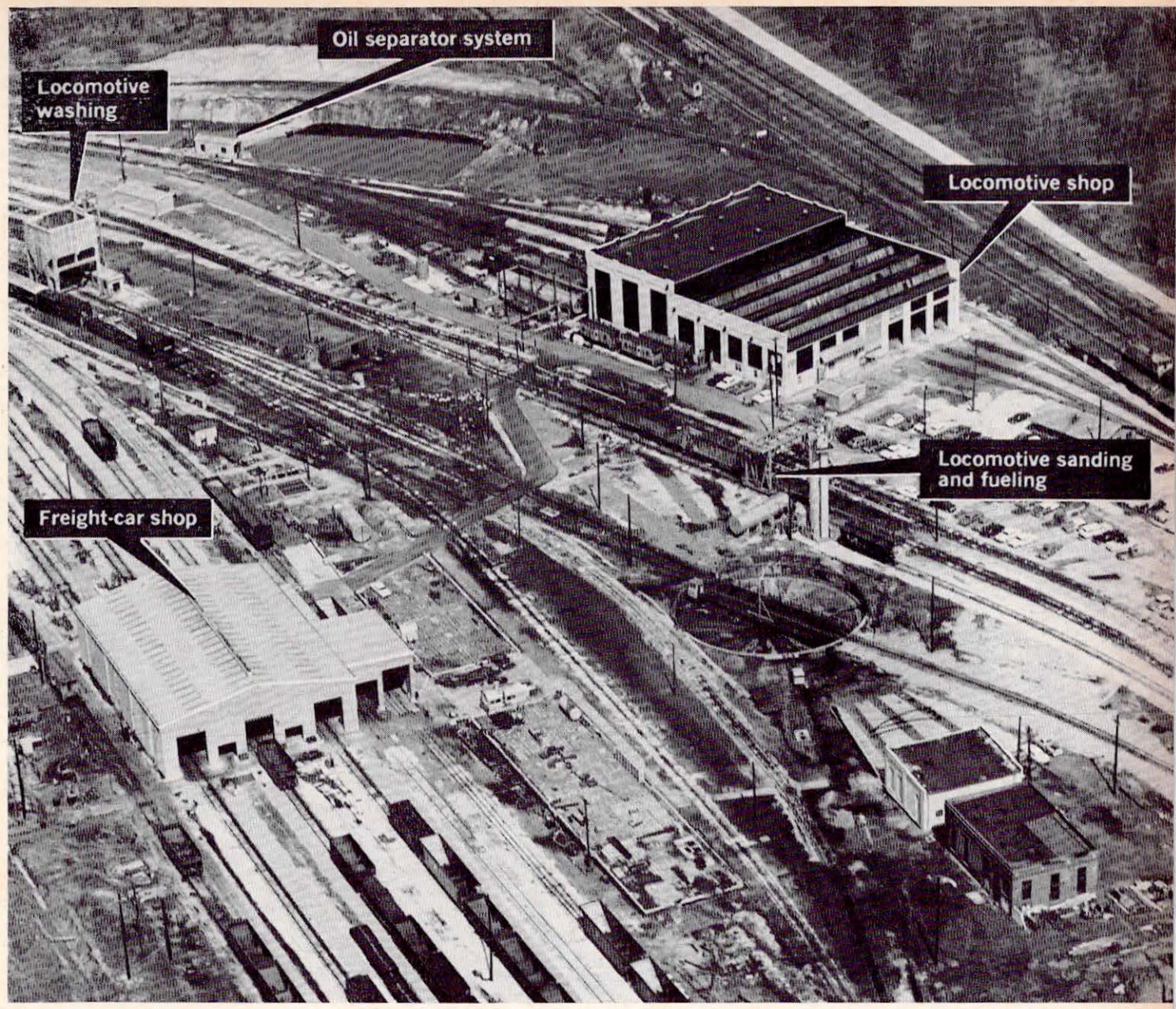
—And finally: "I have received suggestions for solving transportation problems that make most science fiction seem old-fashioned. One lady proposed that people be transported in pressurized capsules strung along cables . . ."

● **Labor taking part.** The list of conference participants shows an equally diverse make-up. Divided among the BRT's three or four conference sub-groups will be representatives of local, state and federal government; college and university faculty members; representatives of both rail management and rail labor; and representatives of a number of transit equipment manufacturers.

Having labor representatives there as active participants is one change from BRT policy at the 1966 conference. Last year, union officers were assigned as moderators for the discussion sessions—but they stayed out of the give-and-take. This year, says BRT President Charles Luna, "the participants themselves requested that labor be represented in the discussions, since some labor issues are involved in the problems of mass urban transportation. However, the labor viewpoint will come in only as part of the discussions of over-all problems—not as issues unto themselves."

So far as the urban-transportation problem itself is concerned, Luna notes that the conference "is aimed at getting leading authorities from all fields together for frank discussion of this national problem."

BRT spokesmen have indicated that virtually all the participants in the '66 meeting wanted another shot at the subject this year—and the organization also got a good response from a number of people who didn't make the 1966 conference. Says Luna: "This is a reflection of how concerned the experts are with the serious nature of the urban mass transportation issue. We're gratified that we can provide a meeting ground for these people." ■



CAR AND LOCOMOTIVE maintenance shops flank centralized servicing area at L&N's Corbin, Ky., terminal. Pollution control gets special attention with runoff water channeled through pipes to new oil/water separator system.

L&N puts shop at a big traffic hub

Expanded equipment facilities improve service and operations in heart of coal-producing area.

The Louisville & Nashville believes in putting locomotive and car maintenance where it is needed. That's why some $850,000 was spent to expand and modernize car and locomotive facilities at its Corbin, Ky., terminal. The L&N aims to provide better service to its coal shippers and receivers and to profit from a more economical and efficient operation.

• **Coal traffic heavy.** Corbin, centrally located, is near the coal-producing areas of southeastern Kentucky. The 200 operating mines served by L&N produced 7.1% of all U.S. coal in 1966. Three L&N operating divisions converge at Corbin. In 1966, some 11½ million tons of coal were produced by the Cumberland Valley division mines. The Knoxville & Atlanta division loaded over one million tons of coal. These, along with the Cincinnati division, with its high tonnage Eastern Kentucky subdivision, mean that coal hauling is big business at Corbin terminal.

Completing the complex at Corbin is one of the L&N's larger classification yards. Loaded hoppers are switched into trains bound for the principal gateways of Cincinnati, Ohio, Louisville, Ky.; Atlanta, Ga., and Miller Yard, Va. (Clinchfield connection). The yard also supplies empties returning to Cumberland Valley mines. For many years, about 90% of CV coal moved northward through either the Cincinnati or Louisville gateways. In recent years, about 60% of CV coal movements have been to large utilities and industries in the south.

The new locomotive facilities will eliminate the need to move units to the

South Louisville, Ky., shops for repairs. Corbin now handles 142 locomotives (13 switchers and 129 road units), and is expected to be maintaining 200 units in the near future.

● **Centralized repairs.** The locomotive shop is the first installation on the L&N to have run-through tracks. New supporting facilities include a sanding gantry, a high-speed fueling system, an inspection and running repair apron and an automatic wash rack.

Locomotives can be fueled, sanded, watered and inspected at the same time because all these facilities, plus the wash rack, are centralized and installed between a pair of service tracks. While the locomotives are being fueled, inspections can be made and the unit sanded. Average dispatchments are 50-55 road locomotives a day. The 620-foot service apron has a 300-foot paved section at the north end between the two service tracks. A 100-foot inspection pit is in the west track.

● **Running repair tracks.** The locomotive shop has seven tracks, numbered one to seven. Through tracks 1, 2 and 3, with space for two locomotives each, are assigned for general running repairs. They are equipped with the conventional arrangement of elevated and depressed platforms. Tracks 4 to 7 are stub-tracks, each being equipped with a 50-foot inspection and repair pit. A revamped 50-ton Whiting drop table is installed on track 4 for handling single wheel sets with mounted traction motors. All tracks are spanned at the north end of the shop by a transverse 15-ton overhead crane for handling heavy pieces of equipment. The shop is fluorescent lighted throughout.

The diesel-shop force includes 32 machinists, 12 pipefitters, 17 electricians, 1 boilermaker, and 21 laborers assigned on three shifts, seven days a week. The total diesel force is 104, including foremen and clerks.

● **Sanding gantries.** A sanding gantry, first of its kind on the L&N, and the first such unit developed by Link-Belt, went into operation last fall. (There are two other such gantries. One at L&N's Radnor Yards, Nashville, Tenn., was completed at the end of 1966. Boyle's Yard gantry at Birmingham, Ala., is currently under construction.) The gantry travels 300 ft over tracks. Silo supplying gantry holds 140 tons; gantry hopper carries 15 tons. Other facilities at the Corbin service apron supply water, fuel oil, air at 90-psi, suspension bearing oil and crankcase lube oil. The lube oil, water and steam lines are encased in weatherproof insulation.

An extensive network of communications is installed and centralized at a console in the diesel foreman's office. There is radio communication with inbound locomotives and cabooses. A talk-back speaker system is installed at six locations on the service apron; at two of these locations there are also dial phone extensions. Paging speakers are placed inside and outside the diesel shop.

● **Four washing sprays.** Locomotive washing is operated automatically. Sprays are actuated by proximity switches at the rail which are tripped by locomotive wheels. Units get an initial cold-water wash followed by a 100-deg F. washing solution containing an alkali cleaner. Sprays outside and between the track wash trucks with a solvent cleaner at 110 deg F. A third spray has a solvent for cleaning the car-body, also heated to 110 deg F. The final spray rinses the locomotive with cold water at 150-psi pressure. Mercury and fluorescent lights illuminate the area for night operation.

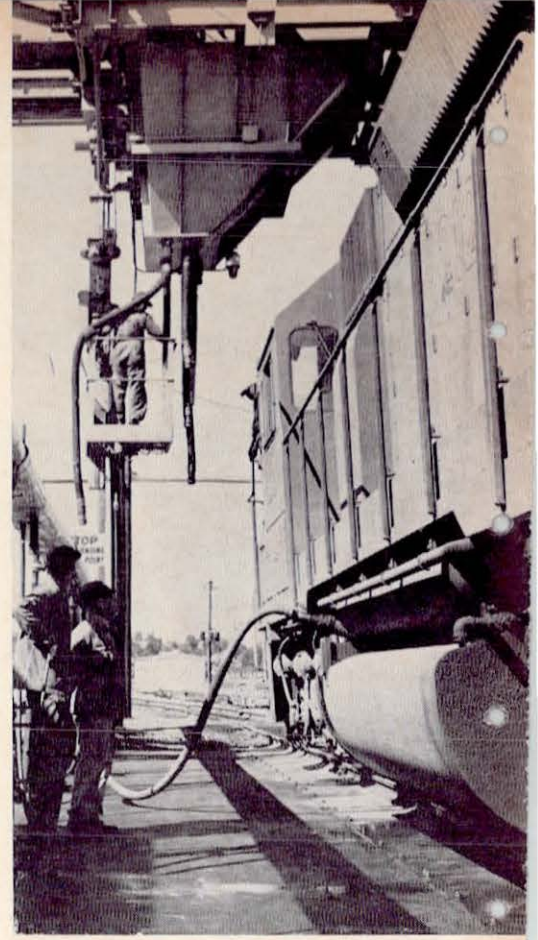
● **One-spot car shop.** The new car shop handles the running and classified repairs to hopper cars assigned to the eastern Kentucky coal fields. Unit-train cars receive special attention to keep them on scheduled runs.

The 170 x 120-foot Armco prefabricated shop building houses three service tracks. All tracks are served by a 50-ton overhead crane. Cars requiring 35 to 45 manhours are held and repaired on five tracks north of the building. Those requiring more extensive repairs are sent to South Louisville. Production now averages 50 cars per day on a two-shift operation, with 15 men assigned on a seven-day basis.

Service tracks are used for running repairs which include replacement of couplers, draft gears, and wheel sets; airbrake and in-date testing; and repair of safety appliances. Each track is equipped with a pair of jib cranes for truck repairs and a Whiting 80-ton recessed traversing rip track.

● **Unit-train cars tested.** One track with a 45-foot pit is assigned to test special unit-train coal cars for automatic door operation and for any repairs needed to keep them in full-time service. A portable transmitter is used to check the functioning of the drop doors and the electronic equipment. Linkage adjustments are made when the doors bind or do not close properly.

The L&N classification yard and the entire shop area has a new stream-pollution-control drainage facility. Plans call for oil-water separation equipment, a sewage treatment plant and a storm drainage system. The installation is designed to eliminate pollution, particularly oil and oil residue getting into the water that ultimately drains into the Cumberland River. The city of Corbin will co-operate in improving 700 feet of ditch near the north end of



CENTRALIZED FACILITIES speed all servicing and inspections. Gantry spots hopper over any sand box.

Water pollution is controlled as shop work is streamlined

RUNOFF WATER moves to lagoon where pollutants are removed before water drains into river.

the yard to provide better drainage.

● **Two-section lagoon.** The heart of the oil/water separation process arrangement is the "Gravi-Pak" oil/water separator system, built by the Bowser-Briggs Filtration Division of Bowser, Inc., Cookeville, Tenn. The system is being installed. A two-section lagoon serves as a receiving and surge storage basin in one section and as a holding area in the second section to permit oil to separate from the water.

Small collecting sumps or catch basins are at strategic points throughout the yard and shop area. They will channel runoff water (from areas where diesel locomotives are washed and serviced) through underground pipes to the treatment area.

Two 10-hp sump pumps in the first section of the divided lagoon pump the mixture of water and oil into an 800-gallon-per-minute "Gravi-Pak" oil/water separator. These pumps operate alternately to equalize wear except when the water level rises above preset controls which activate both pumps.

● **Reclaimed oil is used.** The oil/water separator removes the oil from the water. Specially designed baffle plates in the separator reduce turbulence of the water, causing the oil to rise to the top. It is removed by automatic oil skimmers which discharge the oil to a temporary storage space for inspection. Oil is then transferred to a storage tank near the diesel shop. The oil will be used either in combination with weed and brush spray chemicals or filtered and burned in a steam generator.

After separation, the water is returned to the second section of the lagoon where an adjustable floating skimmer will gather any floating oil from the surface. Eventually, the oil-free water in the second section of the lagoon will flow through a special T-type drain to the drainage ditch.

A 3/16-inch steel cable supports a 1-inch-diameter polyvinyl chloride pipe (PVC) connected to openings in the bottom of the skimmer. There is one skimmer for each section of the lagoon. The other ends of the PVC pipes are connected to a 2-hp pump at the north end of the separator. Supporting the cables and PVC pipes are a series of floats. Posts along the edge of the dual lagoon area permit the skimmer cables to be moved and fastened in any position to reach the oil concentrated on the downwind side.

Sanitary waste will be treated by septic tank, sand filtered and chlorinated before being discharged into the new system. Storm drainage will bypass the lagoon area and flow directly into the improved ditches that will carry the waste-free water to nearby Lynn Camp Creek. ■

WATCHING **WASHINGTON** WITH WALTER TAFT

TAFT

LOCOMOTIVE RULES BEFORE D.O.T.—The AAR has filed with the Department of Transportation a railroad-industry petition for reconsideration and modification of pending new rules for inspection of locomotives other than steam—principally diesels, of course. The rules were issued by the ICC but not made effective before jurisdiction over such regulations was transferred to D.O.T. The transfer came April 1, when D.O.T. opened for business, thus assuming all Commission safety functions.

The locomotive-rules case, Ex Parte No. 243, was part of the unfinished Commission business which went over to the new Department. The Commission's last action in the case was an order by its Division 3 which made relatively minor changes in Examiner Albert E. Luttrell's recommended report of August 17, 1966, and then made that report a decision of the Commission. Division 3's order was served March 17 to become effective 60 days after that date. But this schedule was upset and the matter passed on to D.O.T. by the filing of petitions for reconsideration —first by interested railroad labor unions and then by the AAR.

LABOR OPENED DOOR—Before the labor petition was filed, the railroads were disposed to accept the Commission's decision, after having failed to sell their exceptions to the recommended report. After all, the decision, by adopting that report, did go along with several AAR proposals. When the labor petition opened the door, however, the AAR decided to seek reconsideration, too.

So, the Association's petition asks again for eased general inspection rules, thus advancing once more the industry's position that general inspections of locomotives and their visible insulation and electrical connections should be on quarterly bases. And, because there is "no danger of a steam generator exploding because it has not been washed," the AAR also proposes that such generators be washed only "when they need washing, rather than at the present rigid 30-day intervals."

GHOSTS OF THE DEAD—As to the 30-day rules, the petition points out that they are carryovers from old rules first promulgated for the inspection of locomotive boilers and later for all parts of steam locomotives. "There is no reason why the ghosts of the dead steam locomotive and its equally dead boiler should govern the modern diesel," the petition says. It goes on to point out that Canada has had quarterly-inspection rules since 1960. And they have had no adverse effect on safety—because comparable figures make it "clear" that the safety of Canadian diesels has been "in fact suprior" to the safety of like engines in this country.

Moreover, Canada has no daily-inspection requirements like those which would remain in effect here to supplement quarterly inspections, as they now supplement the 30-day inspections. All of which prompts AAR to ask D.O.T. to remedy the ICC's "error," because the 30-day rules are "neither indispensable nor even mildly beneficial."

THE GAINS—Foremost among the AAR proposals accepted by the Commission is the rule which would put requirements for cleaning various pieces of air-brake equipment on six-month, 12-month and 24-month bases. Present rules require the cleaning of all such equipment every six months. Other gains are acceptance of AAR proposals involving rules for testing main air reservoirs and cable connections and jumpers. Main air reservoirs must now be tested by the so-called hammer and hydrostatic method. The ICC decision cleared the AAR proposal to authorize substitution of the tell-tale-holes method. As to cable connections and jumpers, the Commission adopted the AAR proposal to eliminate formal testing and inspection requirements where the current carried is less than 600 volts.

PEOPLE IN THE NEWS

Robert D. Leach
C&NW

George M. Stafford
ICC

James S. Crow
Southern

John C. Lusar
WP

T. A. Nooner
GRS

Louis T. Freed
GRS

Jack E. Rupp
GRS

O. D. Stowell, Jr.
GRS

Hall E. Downey
GRS

S. S. Coleman
Wine

ASSOCIAT ON OF AMERICAN RAILROADS.—**Hollis G. Duensing** appointed attorney, Law Department, Washington, D.C.

BURLINGTON.—**Richard H. Sherry** appointed terminal manager of piggyback traffic, Cicero, Ill.

CHESAPEAKE & OHIO—BALTIMORE & OHIO.—**R. P. Williams** appointed director, data systems development. **R. J. Dischinger** named director, data processing operations. Mr. Williams was formerly manager, data systems development, Baltimore. Mr. Dischinger was manager, data processing operations, Baltimore.

CHICAGO & NORTH WESTERN.—**Robert D. Leach,** general superintendent of transportation, elected vice president-systems and information services. **F. K. Hauff** succeeds Mr. Leach.

W. P. Allman named assistant vice president-advanced systems.

D. J. Owens, trainmaster, Wisconsin division, Milwaukee, transferred to the Lake Shore division, Green Bay, Wis. **A. T. Eichmann,** trainmaster, Iowa division, Boone, Iowa, replaces Mr. Owens, and in turn is succeeded by **J. M. Drager,** assistant trainmaster, Dakota division, Winona, Minn.

Lon J. Rumble, district sales representative, Kansas City, named general agent, Tulsa, Okla.

ILLINOIS CENTRAL.—**G. F. Blankinship, Jr.** named manager international sales, at Chicago. He retired from the **U. S. Navy** on March 31 after 23 years of service. He was captain-commander of the **Central Military Area Traffic Management and Terminal Service.**

INTERSTATE COMMERCE COMMISSION.—President Johnson's appointment of **George M. Stafford** as a member of the ICC (RA, March 20, p. 7; RA March 27, p. 50) was confirmed by the Senate on April 19. Mr. Stafford has been administrative assistant to **Senator Frank Carlson** (R.-Kan.) since 1950.

RICHMOND, FREDERICKSBURG & POTOMAC.—**William T. Guthrow,** special accountant, Richmond, appointed systems analyst. **Granville A. Corr, Jr.,** assistant movement director, appointed supervisor freight service.

ROCK ISLAND.—**Jack L. Grotewohl,** real estate tax analyst, Topeka, Kans., named assistant to manager of real estate taxes there, to succeed **J. E. Burge,** retired.

ROCK ISLAND MOTOR TRANSIT.—**Michael P. Thomas,** general sales manager, named director of line haul.

SANTA FE.—**M. D. Quin, Jr.** appointed assistant to general manager, having jurisdiction over personnel, Topeka, Kans. He succeeds **J. R. Jones,** advanced to assistant to vice president-personnel, Chicago (RA, April 10, p. 32).

SOUTHERN.—**James S. Crow** elected vice president, Finance & Taxation, Washington, D.C. Mr. Crow was formerly executive vice president, First National Bank of Birmingham, Ala.

Ernest H. Jones, transportation timekeeper, Atlanta, Ga., appointed assistant industrial engineer there.

John F. Hamill, Jr. and **John W. Beaver,** commercial agents, appointed sales representatives at Washington, D.C., and Philadelphia, Pa., respectively.

Denver Eyler, manager of transportation, Rail-Highway Services, Atlanta, appointed director, Rail-Highway Services there.

UNION PACIFIC.—**George R. Troutman,** yardmaster, Los Angeles, named assistant terminal superintendent, Denver.

Richard Chojnacki, assistant to the general manager, mining, Natural Resources division, Los Angeles, appointed to the new position of project manager, mineral commodities, Salt Lake City.

U.S. ARMY.—**Col. Richard K. Hutson** has been named director, Transportation Engineering Agency at Fort Eustis, Va. **Lieut. Col. Robert W. Wildey,** who has served as commanding officer of TEA since July 1962, will continue in command of its military component while serving also as deputy director. Col. Hutson, who once served as Army chief of transportation, was formerly chief of staff of TEA's parent organization, **Military Traffic Management & Terminal Service,** Washington.

VERMONT.—**Lester J. Evans** has been appointed vice president—traffic, Rutland, Vt., effective May 1, succeeding **Stephen A. Clifford,** appointed assistant to president. Mr. Evans was formerly general freight agent—marketing, **Jersey Central** at Newark, N.J.

WESTERN MARYLAND.—The office of Mineral and Timber Lands at Thomas, W. Va., formerly managed by **A. R. Salvato.** has been transferred to the Engineering Department, effective April 1, and has become a function of the Real Estate Division under direction of **J. S. Michno,** manager—real estate.

WESTERN PACIFIC.—**John C. Lusar,** assistant superintendent, Sacramento, Calif., advanced to superintendent there, to succeed **James F. Lynch,** who retired Feb. 28 after 43 years of railroad service.

WP has established a district sales office at Spokane, Wash. **Charles N. Tackett,** district sales manager, is in charge of the new office. Assisting him is **William E. Blackerby,** senior sales representative.

SUPPLY TRADE

Thompson A. Nooner, director of marketing services and public relations, **General Railway Signal Co.,** Rochester, N.Y., has been appointed executive assistant to the president. In this assignment, Mr. Nooner will serve as director for long range planning, as well as public relations. In addition, he will coordinate the company's executive level marketing activities and provide liaison with government and legislative representatives.

Louis T. Freed, vice president—sales, has been appointed vice president—marketing. Mr. Freed will be in charge of the newly organized Marketing Division, which succeeds the former Sales Division. **Jack E. Rupp,** manager, Pacific region, has been named manager—market planning. **Omar D. Stowell, Jr.,** manager, railway sales, has been appointed sales manager. **Hall E. Downey,** manager, promotional services, has been named manager, advertising and sales promotion.

S. S. Coleman has been appointed national sales manager, **Wine Railway Appliance Co.,** division of Unitcast Corp., at Toledo, Ohio.

Cartoon by Charles Schulz

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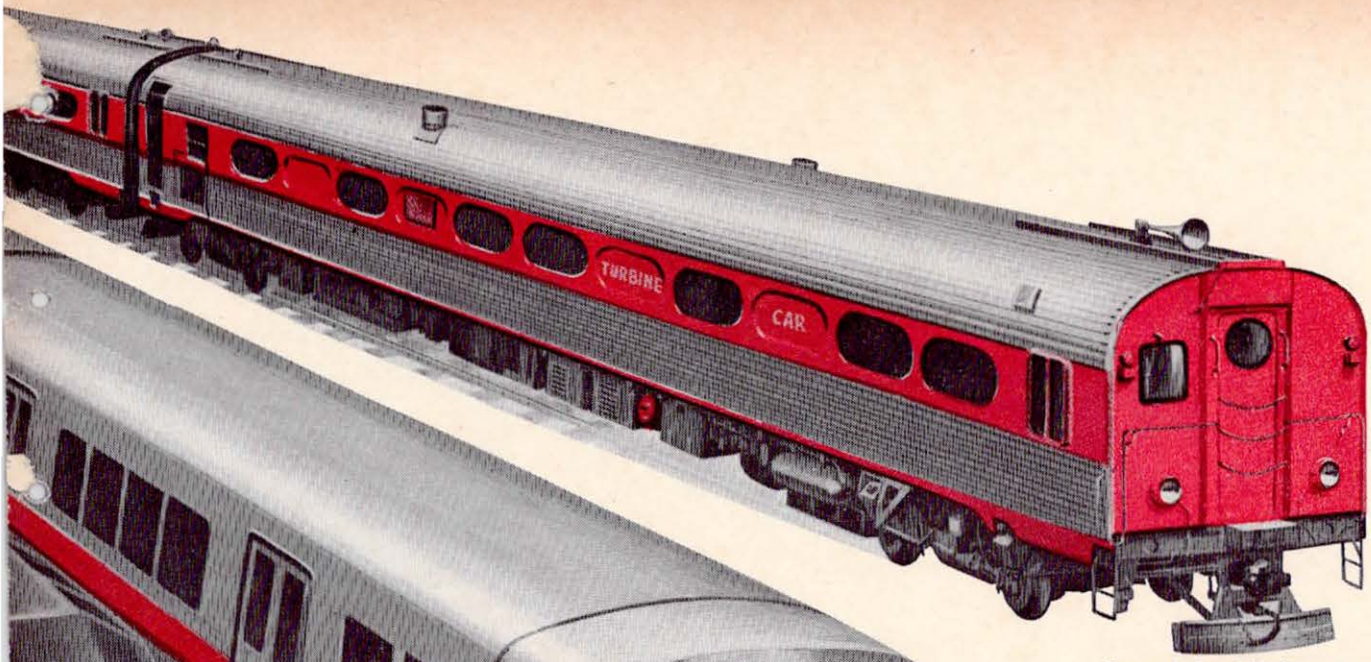

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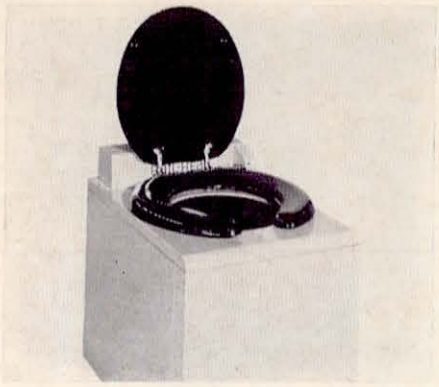


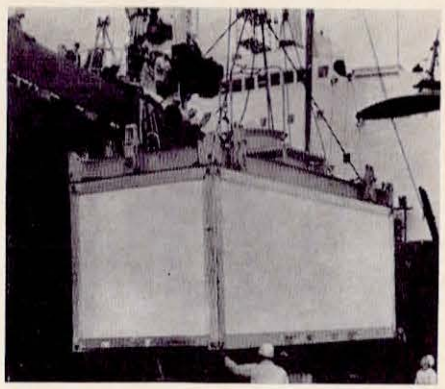
Combustion Toilet (RA-1)

Specifically engineered for the needs of the railroad industry is a combustion toilet designated Rail-Head. It is said to apply the same principle that powers today's jet aircraft to the disposal of human waste. A super-heated jet of flame, generated either by gas or oil, is focused directly on the waste and quickly converts it into harmless vapors, then exhausts these products into the atmosphere. This method is said to result in maximum incineration.

Rail-Head is self-contained and requires no water, plumbing or storage facilities. It is said, therefore, to be an ideal substitute where the common water-closet type of toilet waste disposal system is impractical to use. Instead of a holding tank and terminal pump-out program, the Rail-Head reduces waste to dry non-organic ash which, it is said, can be emptied anywhere. Raising the lid activates a power exhaust system which ventilates the room. It requires LP or natural gas or fuel oil for fuel; electricity for power and ignition; and a flue for venting the combustion products. *LaMere Industries, Inc.*

Snow Blower (RA-2)

The Typhoon snow blower attachment with which the RMC car mover can be equipped has a diesel or gasoline engine mounted above and driving an "air-foil" centrifugal fan. An air-discharge nozzle with baffles and shielding is mounted directly below the fan. Nozzle elevation is controlled by a hand-operated hydraulic pump or by operation of fork lift. Nozzle can be positioned anywhere from top of rail to 12 in. above top of rail. *Railway Maintenance Corp.*



Fiberglassed Plywood (RA-3)

Basically, Brunsclad panel is a combination of structural plywood and reinforced plastic. It consists of 1/16-in.-thick fiberglass woven roving, combined with polyester resin, applied to both sides of Exterior-type plywood, and is produced in sheets up to about 10 ft wide. Length is governed by end-use design or shipping limitations. For containers, standard over-all panel thickness is ⅞ in.; standard panel dimensions 8 x 20 and 8 x 40 ft. *Brunswick Corp.*

Switch-List Covers (RA-4)

Switch-list and working-time-card covers given to employees of several roads—including Great Northern, Chicago & North Western, Pennsylvania, Burlington and Pacific Great Eastern—are fabricated of heavy, durable plastic. They are flame-colored on one side, clear plastic on the other, to permit easy reading of time tables and switch lists. Covers protect contents and make hand signals more clearly visible. *Douglas Kennedy Co.*

Control Unit (RA-5)

A new control unit consists of 7 PD1 plug-in relays interwired in the standard AAR manner to give directional control of a highway crossing signal. It includes the two approach relays, the two directional stick relays, the island track relay, the XR relay and the flasher relay. AAR terminals are provided at the top for connecting to the signals, to the track, to the line and to power. The approach relays and island track circuit relay can be provided. *Transcontrol Corp.*

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MARKET OUTLOOK

Carloadings

Carloadings of revenue freight in the week ended April 22 totaled 558,062 cars, the Association of American Railroads announced on April 27. This was an increase of 4,504 cars, or 0.8%, compared with the previous week; an increase of 14,423 cars, or 2.7%, compared with the corresponding week last year; and a decrease of 12,427 cars, or 2.2%, compared with the equivalent 1965 week. Ton-miles generated by carloadings in the week ended April 22 are estimated at 14.2 billion, an increase of 3.6% above the corresponding week of 1966, and 5.3% above the 1965 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, April 22

District	1967	1966	1965
Eastern, including Allegheny and Pocahontas	223,681	195,378	238,072
Southern	120,462	115,675	114,818
Total Eastern and Southern Districts	344,143	311,053	352,890
Northwestern	67,590	77,458	69,219
Central Western	105,918	114,525	108,626
Southwestern	40,411	40,603	39,754
Total Western Districts	213,919	232,586	217,599
Total All Roads	558,062	543,639	570,489
Commodities:			
Grain and Grain products	40,490	52,615	46,372
Livestock	1,338	1,935	1,997
Coal	115,836	62,029	108,489
Coke	6,901	9,352	9,713
Forest Products	38,454	40,565	37,497
Ore	33,318	41,014	38,223
Merchandise l.c.l.	5,219	6,709	9,349
Miscellaneous	316,486	329,420	318,849
Apr. 22	558,062	543,639	570,489
Apr. 15	553,558	543,049	547,742
Apr. 8	543,761	568,683	557,067
Apr. 1	537,919	546,787	542,094
Mar. 25	529,602	571,095	534,065
Cumulative total, 16 weeks	8,418,349	8,644,760	8,537,975
Estimated revenue ton-miles (billions) 16 weeks	218.0	219.7	202.3

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the week ended Apr. 15 totaled 19,503 cars, carrying 31,970 trailers, compared with 21,732 cars, carrying 35,791 trailers, in the corresponding 1966 week. Loadings for 1967 up to Apr. 15 totaled 334,068 cars, carrying 548,122 trailers, compared with 313,377 cars, carrying 518,111 trailers, in the corresponding period of 1966.

IN CANADA—Carloadings for the seven-day period ended April 7 totaled 71,257 cars, compared with 102,434 for the previous ten-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
April 7, 1967	71,257	23,634
April 7, 1966	79,333	25,934
Cumulative Totals		
April 7, 1967	966,542	343,354
April 7, 1966	1,027,480	358,565

PASSENGER TRAIN CARS

► *Department of Transportation.*—Has awarded a contract to United Aircraft Corp., Hartford, Conn., for engineering an experimental auto-ferry train which the Atlantic Coast Line will operate between Alexandria, Va., and Jacksonville, Fla. Actual construction of the cars, for which Sundberg-Ferar, Inc., did the conceptual design (RA, April 10, p. 10), will be sub-contracted to one of the established railroad carbuilders. A published report that this contract has gone to the Budd Co. was described by a D.O.T. spokesman last week as premature. The cars reportedly will be of aluminum construction. Each car will be 85 ft long and will have two decks, each deck capable of carrying four automobiles. The cars will be enclosed and automobile passengers will be able to walk along aisles to a lounge-and-service car at each end of a 12-car train.

NEW FACILITIES

► *Canadian National.*—Awarded to Dosco Industries Ltd., Canadian Bridge Division, Walkerville, Ont., the final contract involved in construction of a new 2,174-ft bridge which will connect Vancouver and the North Shore. The multi-million-dollar contract covers fabrication and erection of the 493-ft lift span and two supporting towers.

► *Massachusetts Bay Transportation Authority.*—Approved the award of a $5,613,000 contract to General Railway Signal Co., for furnishing and installing a train control and cab signal system on 22 road miles of double track lines. The systems will be installed on the Cambridge-Dorchester and the new South Shore lines. Also included in the contract is a sub-contract to Sylvania Electric Products Inc. for a KarTrak automatic car identification system.

► *New York Central.*—Ordered CTC equipment from General Railway Signal to control 13 stations, including approaches to the Alfred E. Perlman Yard at Selkirk, N.Y., and a new passenger station at Albany. A pushbutton "Traffic Master" console and GRS high-speed electronic coding, System 4000, will be furnished.

CAR OWNERSHIP

► *Serviceable cars increase.*—Revenue freight cars in serviceable condition owned by Class I railroads on April 1 totaled 1,422,997, compared with 1,406,470 on April 1, 1966, according to most recent AAR Car Service Division Report. Estimated total ownership of all railroad- and privately-owned revenue freight cars on April 1 was 1,827,131 (average capacity: 61.60 tons), compared with 1,796,321 (average capacity: 59.90 tons), on April 1, 1966.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

(April 1, 1967 vs. April 1, 1966)

		Box	Covered Hopper	Gondola	Hopper	Flat	Refrig.	All Others	Total
Class I	1967	579,602	109,427	206,404	427,075	66,037	49,661	59,320	1,497,526
	1966	579,463	94,531	213,043	425,789	63,393	44,723	59,135	1,480,077
RRO&C Refrig.*	1967	0	0	0	0	0	53,340	0	53,340
	1966	0	0	0	0	0	55,512	0	55,512
Private	1967	1,877	24,366	1,084	1,543	35,512	15,565	169,471	249,418
	1966	1,800	17,559	720	1,149	29 832	12,357	166,564	229,981
Class II & S&T†	1967	9,072	788	5,561	9,003	755	441	1,227	26,847
	1966	10,017	858	6,270	11,387	856	274	1,089	30,751
GRAND TOTAL	1967	590,551	134,581	213,049	437,621	102,304	119,007	230,018	1,827,131
	1966	591,280	112,948	220,033	438,325	94,081	112,866	226,788	1,796,321

*Railroad owned and controlled refrigerator car lines.
†Class II railroads and switching and terminal companies.

YOU OUGHT TO KNOW

Passenger profit for CN? Canadian National still isn't showing a profit on passengers, but break-even day may not be far away. In 1966, reports CN, the number of passengers using the railroad rose by 434,000, a gain of 2.6%. The average passenger travelled 118 miles, an increase of 9% over the previous year. Total result was an advance in passenger train-miles to about 2 billion, a 12% increase—and the highest since 1946. CN's annual report concluded: "The increase in passenger service revenues (15.8%) compared with the smaller (6.2%) increase in passenger train-miles is significant indication that revenues are increasing faster than expenses and that an eventual over-all profit position is indeed possible."

Fuller named E-L chairman: Directors of the Erie Lackawanna last week elected Robert G. Fuller chairman of the board, filling the vacancy created by the death April 6 of William White. A spokesman said E-L President Gregory W. Maxwell will be responsible for the business and operations of the railroad; Fuller will handle financial and merger matters. Harry C. Hagerty, a director of the E-L since 1941, has been elected chairman of the executive committee.

Milestone at Bellevue: Norfolk & Western's $13.5-million electronic yard at Bellevue, Ohio, won't be in full operation for another month—but the 1,000-cars-per-shift goal has already been achieved. During a recent eight-hour period, reports N&W, yard employees moved 1,033 cars over the hump at Bellevue.

HUD stresses transit design: A conference on design in urban transportation will be sponsored in Washington by the Department of Housing and Urban Development, May 22. Scale mockups and photographs wil be used to illustrate trends. Said HUD Assistant Secretary Charles M. Haar: "Our cities can ill afford to lose the opportunity afforded by major mass transit construction to create urban form that is inspiring and refined, as well as functionally efficient."

Waterside I.D.: Waterway interests report new successes in their industrial development campaign but activity is below the 1966 pace. In this year's first quarter, waterside sites attracted 92 plant facilities, according to American Waterways Operators, Inc. In the comparable period of 1966, AWO reported the development or expansion of 119 waterside facilities.

North American sees gains: North American Car Corp. is looking for its ninth consecutive year of record earnings. President E.C.R. Lasher says the company's forecast for 1967 profits shows an increase of approximately 10% over 1966. Lasher said 49% of North American's car fleet is less than six years of age, while 69% of the cars are under 11 years of age.

Record net for AMSTED: In the six months ended March 31, earnings of AMSTED Industries were the highest for any first half-year period in the company's history. Net income of $6,848,000 was up from the previous record of $6,003,000, set in the first half of the previous fiscal year. AMSTED President Joseph B. Lanterman said the largest increases were in sales of railroad products, roller chains and machine tools. What about '67 as a whole? Lanterman foresees "another excellent year."

GSI earnings rise: General Steel Industries posted a first-quarter net after taxes of $925,481, or 40 cents a share, compared with 33 cents a share in the corresponding 1966 period. President W. Ashley Gray, Jr., expects the second quarter to be "a good one and the first half of the year should show an over-all improvement over the first six months of 1966." But uncertainties in the capital goods market, resulting from suspension of the 7% investment tax credit, make the second half cloudy, he said.

Truck tonnage: Intercity truck tonnage in the week ended April 15 was 34.5% below that of the previous week and 33.3% below the volume in the corresponding week of 1966, according to American Trucking Associations. The sharp decreases were attributed to a work stoppage during the week reported.

Current statistics

Net Income	
12 mos., 1966	$902,000,000
12 mos., 1965	815,000,000
Carloadings, revenue freight	
16 wks., 1967	8,418,349
16 wks., 1966	8,644,760
Freight cars on order	
Mar. 1, 1967	46,197
Mar. 1, 1966	51,760
Freight cars delivered	
2 mos., 1967	15,318
2 mos., 1966	13,971
Serviceable cars	
Apr. 1, 1967	1,422,997
Apr. 1, 1966	1,406,470

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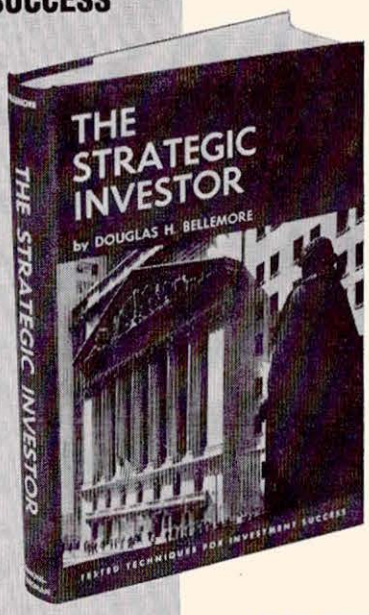

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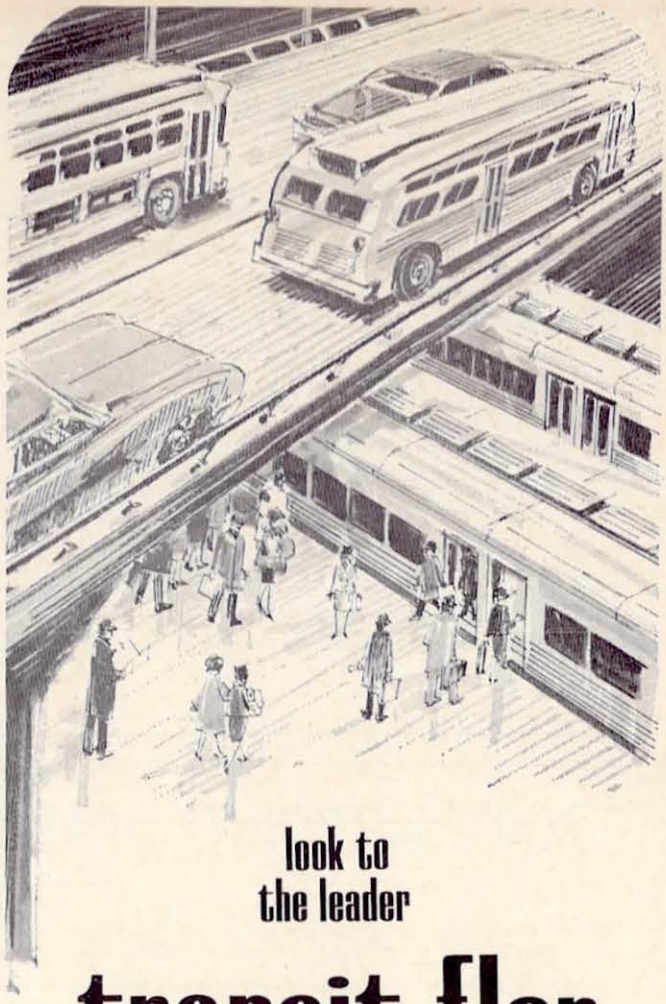

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VIEWPOINT

In planning, how far is "ahead"?

Railroad men are gingerly exploring planning possibilities that would have seemed a waste of time ten years ago. It wasn't always that way.

A decade ago railroad chieftains agonized over events just weeks and months away. In the late fifties, the industry's Cassandras (reading doom into the rise of competitive technology in tandem with discriminatory regulation and government promotion of competitive transportation modes) dominated the public dialogue over the "railroad problem." Crying towels were respectable accessories for managers giving a "realistic" assessment of the future whenever planning was the work at hand.

How about contrary opinion? There was plenty. But the men with a rosier view of the possibilities talked against a tide running over the industry. But, of course, they were talking about months and matters that were way ahead of the time and events hypnotizing the Cassandras.

As the sixties began, disaster seemed just months away for many carriers. But important moves both within and without the industry were working like a yeast to produce one of the most dramatic turnarounds in the annals of U.S. business. By the mid-sixties, it was apparent that the demise of the U.S. railroad industry was nowhere near as imminent as the "realists" had thought a few years before. By 1967, in fact, some men in the industry have their eyes fixed on the long future.

A "conservative" speaks up

For example, Burlington President William J. Quinn gave a speech to the Railway Supply Group at Chicago a few days ago that rather starkly illustrated the possibilities in stretching-out the planning process—and also underscored the evolution occurring in the industry's upper management levels. Ten years ago, Mr. Quinn's talk would have raised eyebrows everywhere. Today, it raises visions of what may very well come to pass if the industry presses its technical and economic advantages skillfully.

Mr. Quinn is not a dreamer. He is one of the men our industry considers "sound and somewhat conservative." He has never talked loosely about industry prospects or tried to minimize our many internal and external problems. Yet, to an overflow crowd of suppliers and manufacturers, Mr. Quinn took a sober and detailed look at "the distant horizon where we can perceive the shape of things possible in the future."

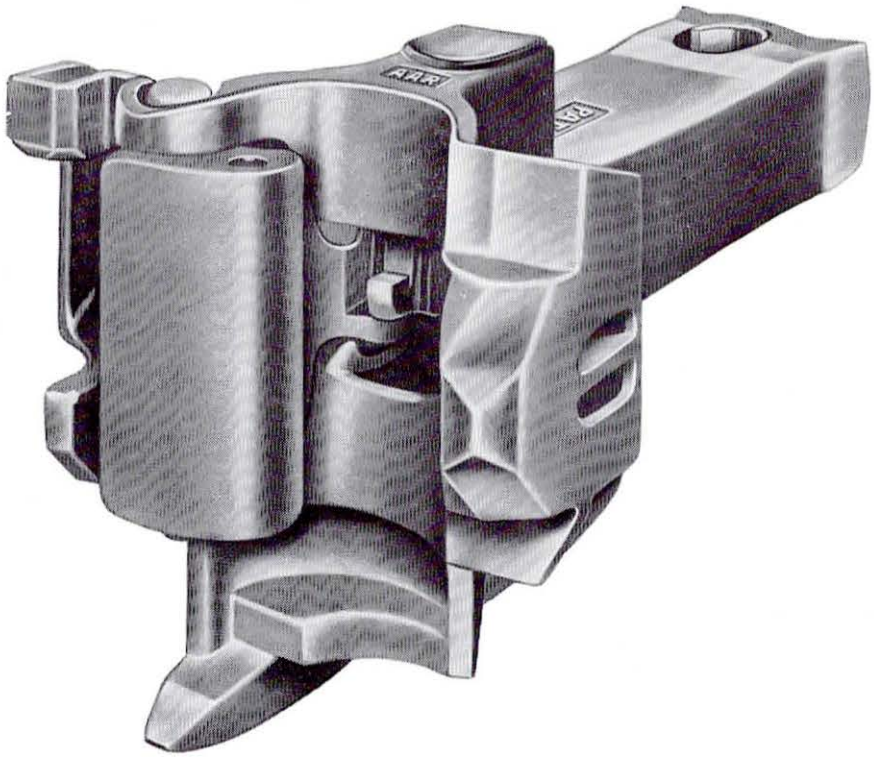
It was quite a look. Mr. Quinn warned his auditors that "vision, imagination and creativity" are the very essence of what railroads have to have "to achieve the potential possible for railroads of the future."

What is the shape of that potential? Mr. Quinn quickly sketched past such obvious possibilities as computerized control of operations, greatly improved communications that will give managers a minute-by-minute view of operations system-wide. He also described streamlined and simplified freight tariffs, paperwork that will originate and be handled automatically via a master punched card—as being "in the medium range future." Also in this range is intermodal handling of containers on a very large scale.

"Anything is possible"

Then Mr. Quinn turned to the industry's many "interesting long-range possibilities." While admitting that nothing is likely to challenge the diesel in the next decade, Mr. Quinn pointed out that beyond that "anything is possible." He cited the possibility that laser-like transmission of energy could, in conjunction with "the changing requirements of a modern world" interact to produce an automated railway system built upon a car-fleet of individually motorized cars. Mr. Quinn's description of the efficiencies and superior service that could be achieved with such hardware was breath-taking. A shipper, from the moment he asked for a car, would enjoy perfect control and perfect handling of his shipment as the computer-controlled system sent a car to his siding, started it to a classification yard and automatically kept it rolling to destination at optimum speeds and routes—even as the computer handled paperwork and notified the receiver when the car was due.

Mr. Quinn says such looks ahead are both necessary and realistic. Railroad men need to adequately prepare for the great cooperative effort that will need to be made by the carriers, suppliers, the government, and railroad labor if U.S. society is to have the railroads it will need in time to come. We agree.



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